

# Turbo™

INTELLIGENT DIGITAL DISK RECORDER

## User Guide

SOFTWARE VERSION 2.3

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# Finding Information

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This user manual describes the Turbo iDDR and provides instructions for configuring and operating the product in a variety of applications.

## How this manual is organized

This manual is organized around the tasks required to install, configure, and operate the Turbo iDDR. The following describes the chapters included in this manual:

[Chapter 1, \*Product Introduction\*](#) — Provides the product functional description and an overview of the key features.

[Chapter 2, \*Configuration: Turbo iDDR\*](#) — Describes how to modify the Turbo iDDR configuration settings using the front panel display in front panel mode or using the configuration tool provided in AppCenter Workstation mode.

[Chapter 3, \*Operation: Front Panel Control\*](#) — Describes how to operate the Turbo iDDR in front panel mode.

[Chapter 4, \*Operation: AppCenter Workstation\*](#) — Describes how to operate the Turbo iDDR using the AppCenter Workstation user interface available when you connect VGA monitor, mouse, and keyboard.

[Chapter 5, \*Remote Control\*](#) — Describes how to setup and operate the Turbo iDDR using industry standard remote control protocols or GPI-Input triggers.

[Chapter 6, \*Using an Ethernet connection\*](#) — Describes the basics of setting up a network connection for file transfer or remote control using remote control protocols over Ethernet.

[Chapter 7, \*Maintenance Tasks\*](#) — Contains step-by-step procedures for performing routine maintenance on the Turbo iDDR to keep it running at peak performance.

## Getting more information

In addition to this document, information is available in the following locations.

### Turbo Documentation CD-ROM

A full set of support documentation is available on the Documentation CD-ROM that you received with your Turbo iDDR which includes:



- **Turbo iDDR Quick Start Guide** — This guide provides step-by-step installation instructions for basic installation and operation, including recording and playing clips, trimming clips, and making a playlist.

- **Turbo iDDR User Manual** — Describes the Turbo iDDR and provides instructions for installing, configuring, and operating the product in either the front panel or AppCenter Workstation control modes.
- **Turbo iDDR Service and Troubleshooting Guide** — Contains information for solving common setup problems, as well as information on servicing and maintenance
- **Turbo iDDR Release Notes** — Contains the latest information about the Turbo iDDR software shipped on your system. The information in this document includes software upgrade instructions, software specifications and requirements, feature changes from the previous releases, and any known problems.

### On-line Help System

You can access the on-line help through the AppCenter Workstation user interface which is available when you operate the Turbo iDDR using a VGA monitor, mouse, and keyboard.

To access online help in AppCenter:

- In the main user interface toolbar, click **Help**, then choose **Help Topics**.

### Thomson Grass Valley Web Site

This public Web site contains all the latest manuals and documentation, and additional support information. Use the following URL.

<http://www.thomsongrassvalley.com>.

## Grass Valley Product Support

To get technical assistance, check on the status of problems, or report new problems, contact Grass Valley Product Support via e-mail, the Web, or by phone or fax.

### Web Technical Support

To access support information on the Web, visit the product support Web page on the Grass Valley Web site. You can download software or find solutions to problems by searching our Frequently Asked Questions (FAQ) database.

**World Wide Web:** <http://www.thomsongrassvalley.com/support/>

**Technical Support E-mail Address:** [gvtechsupport@thomson.net](mailto:gvtechsupport@thomson.net).

### Phone Support

Use the following information to contact product support by phone during business hours. Afterhours phone support is available for warranty and contract customers.

United States	(800) 547-8949 (Toll Free)	France	+33 (1) 34 20 77 77
Latin America	(800) 547-8949 (Toll Free)	Germany	+49 6155 870 606
Eastern Europe	+49 6155 870 606	Greece	+33 (1) 34 20 77 77
Southern Europe	+33 (1) 34 20 77 77	Hong Kong	+852 2531 3058
Middle East	+33 (1) 34 20 77 77	Italy	+39 06 8720351
Australia	+61 1300 721 495	Netherlands	+31 35 6238421
Belgium	+32 2 3349031	Poland	+49 6155 870 606
Brazil	+55 11 5509 3440	Russia	+49 6155 870 606
Canada	(800) 547-8949 (Toll Free)	Singapore	+656379 1390
China	+86 106615 9450	Spain	+ 34 91 512 03 50
Denmark	+45 45968800	Sweden	+46 87680705
Dubai	+ 971 4 299 64 40	Switzerland	+41 (1) 487 80 02
Finland	+35 9 68284600	UK	+44 870 903 2022

### Authorized Support Representative

A local authorized support representative may be available in your country. To locate the support representative for your country, visit the product support Web page on the Grass Valley Web site.



# Safety Summaries

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## General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

*Only qualified personnel should perform service procedures.*

While using this product, you may need to access other parts of the system. Read the *General Safety summary* in other system manuals for warnings and cautions related to operating the system.

## Injury Precautions

### Use Proper Power Cord

To avoid fire hazard, use only the power cord specified for this product.

### Ground the Product

This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

### Do Not Operate Without Covers

To avoid electric shock or fire hazard, do not operate this product with covers or panels removed.

### Do Not operate in Wet/Damp Conditions

To avoid electric shock, do not operate this product in wet or damp conditions.

### Do Not Operate in an Explosive Atmosphere

To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

### Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

## Product Damage Precautions

### Use Proper Power Source

Do not operate this product from a power source that applies more than the voltage specified.

### Provide Proper Ventilation

To prevent product overheating, provide proper ventilation.

### **Do Not Operate With Suspected Failures**

If you suspect there is damage to this product, have it inspected by qualified service personnel.

### **Battery Replacement**

To avoid damage, replace only with the same or equivalent type. Dispose of used battery according to the circuit board manufacturer's instructions.

## **Safety Terms and Symbols**

### **Terms in This Manual**

These terms may appear in this manual:



**WARNING:** Warning statements identify conditions or practices that can result in personal injury or loss of life.



**CAUTION:** Caution statements identify conditions or practices that may result in damage to equipment or other property, or which may cause equipment crucial to your business environment to become temporarily non-operational.

### **Terms on the Product**

These terms may appear on the product:

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

WARNING indicates a personal injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

### **Symbols on the Product**

The following symbols may appear on the product:



DANGER high voltage



Protective ground (earth) terminal



ATTENTION – refer to manual

## Service Safety Summary



**WARNING:** *The service instructions in this manual are intended for use by qualified service personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries before performing service.*

### Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

### Disconnect Power

To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

### Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections

## Certifications and Compliances

### Canadian Certified Power Cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

### FCC Emission Control

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by Grass Valley can affect emission compliance and could void the user's authority to operate this equipment.

## **Canadian EMC Notice of Compliance**

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## **EN55103 1/2 Class A Warning**

This product has been evaluated for Electromagnetic Compatibility under the EN 55103-1/2 standards for Emissions and Immunity and meets the requirements for E4 environment.

This product complies with Class A (E4 environment). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## **FCC Emission Limits**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.

## **Laser Compliance**

### **Laser Safety Requirements**

The device used in this product is a Class 1 certified laser product. Operating this product outside specifications or altering its original design may result in hazardous radiation exposure, and may be considered an act of modifying or new manufacturing of a laser product under U.S. regulations contained in 21CFR Chapter 1, subchapter J or CENELEC regulations in HD 482 S1. People performing such an act are required by law to recertify and reidentify this product in accordance with provisions of 21CFR subchapter J for distribution within the U.S.A., and in accordance with CENELEC HD 482 S1 for distribution within countries using the IEC 825 standard.

### **Laser Safety**

Laser safety in the United States is regulated by the Center for Devices and Radiological Health (CDRH). The laser safety regulations are published in the "Laser Product Performance Standard," Code of Federal Regulation (CFR), Title 21, Subchapter J.

The International Electrotechnical Commission (IEC) Standard 825, "Radiation of Laser Products, Equipment Classification, Requirements and User's Guide," governs laser products outside the United States. Europe and member nations of the European Free Trade Association fall under the jurisdiction of the Comité Européen de Normalization Electrotechnique (CENELEC).



## **Safety Certification**

This product has been evaluated and meets the following Safety Certification Standards:

<b>Standard</b>	<b>Designed/tested for compliance with:</b>
ANSI/UL60950, CAN/CSA C22.2 No. 60950-00 12/01/2000	Safety of Information Technology Equipment, including Electrical Business Equipment (Third edition).
IEC 950	Safety of Information Technology Equipment, including Electrical Business Equipment (Third edition, 1999).
EN60950	Safety of Information Technology Equipment, including Electrical Business Equipment (Third Edition 2000).



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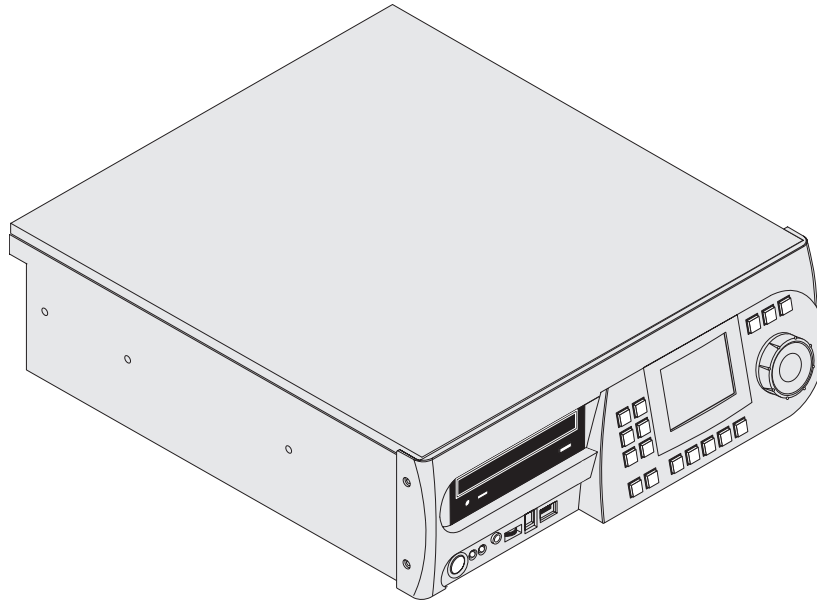
# ***Product Introduction***

Information in the chapter includes:

- “Product overview and key features”
- “Functional description”
- “Media disk space: How media is stored”
- “Front panel controls and indicators”
- “Rear panel connectors”
- “Turbo iDDR control modes”
- “Power-on and shutting down”
- “Accessing the Windows operating system”

## Product overview and key features

The Turbo iDDR is a multi-channel digital video recorder that allows simultaneous record and playback of media stored on internal disk drives. The Turbo iDDR features a single record channel (R1) and two play channels (P1/P2). Hours of storage depends on the video compression settings selected. The front panel touch screen and TFT display along with front panel transport controls allow easy operation and monitoring with minimal external connections. The iDDR also provides a built in digital disk recorder application— AppCenter Workstation. This application is available when you connect a keyboard, mouse, and VGA monitor to the iDDR rear panel. The Workstation application provides a graphical user interface to handle all essential tasks provided in front panel mode and more.



**Simultaneous access to common storage** – Simultaneous access to common storage by all three channels means that you can play a clip that is still being recorded, and that a clip can be played simultaneously and independently on multiple channels.

**Front panel operation**– The front panel features a TFT display with touch screen and VTR-like transport controls. The front panel is tilted to a convenient operating angle. The user interface provides an on-screen keyboard for text entry (entering names and timecode). You can also connect an external keyboard to the either the PS/2 or USB ports for easy text entry or transport control using keyboard shortcuts.

**Integrated control applications software** – The standard control application not only enables a number of simple manual and semi-automatic operations previously available with tape, but also takes advantage of the capabilities of a disk based recorder, e.g. simultaneous record/play, list playout, clip trimming.

**Multiple signal I/O formats** – The following table describes the signal I/O formats available in the iDDR. Refer to [“Electrical specifications” on page 289](#) for complete specifications.

Signal I/O format	Description	Connector
<b>Video</b>		
Analog Composite	PAL/NTSC	BNC
S-Video	PAL/NTSC	BNC
Analog Component	RGB (output only) YUV	Input: BNC Output: DVI-I
SDI	SDI conforms to SMPTE 259M	BNC
DVI Digital <sup>a</sup> (Output ONLY)	Used for direct digital connections to digital displays.	DVI-I
<b>Audio</b>		
Analog Audio	2ch/video; Balanced differential analog; sampled @ 48 KHz; 16-bit pcm	XLR
Digital (S/PDIF)	EBU Standard IEC958 “Digital audio interface”; PCM or AC-3	BNC
<b>Timecode</b>		
LTC	1ch per record channel; 1 ch per play channel	BNC
Internal Generator	Time of day or user selectable start timecode; drop-frame or non-drop-frame.	NA
<b>IEEE 1394A</b>		
IEEE 1394A Input	IEEE 1394A; Available as a Record channel input for importing and recording media from a digital recording device that uses DV or HDV format.	1394 Connector

<sup>a</sup>. DVI used for output only. The connector carries both digital and component analog signals.

**Selectable video compression data rates**– The Turbo iDDR records video using MPEG-2 Long GOP compression with selectable video data rate. This allows you to choose the highest picture quality possible to obtain the storage capacity needed. The following table shows the storage capacity estimates based on the video compression data rate selected in the Turbo iDDR.

**NOTE:** Storage capacity will increase as larger disk sizes become available.

Selected Data Rate	Approximate Storage Capacity
15Mbps	17 hours
12Mbps	21 hours
8 Mbps	30 hours
4Mbps	40 hours

**Convenient monitoring** – The front panel display includes current clip information for each channel, including a thumbnail image for the clip loaded on each channel. A front panel headphone jack is provided for audio monitoring. The signal monitored follows the channel selection.

**Media transfer to other devices** – The iDDR supports media transfers over the standard Ethernet port. Supported devices for media transfers include other Turbo iDDRs or the Grass Valley M-Series iVDR. You must configure the iDDR network settings prior to attempting media transfers.

**Importing and Exporting media** – You can exchange media with other devices by importing and exporting files using standard file formats. Files can be exchanged over an Ethernet connection to network drives or using common forms of removable media such as CD-R, DVD-R, external USB drives and flash drives. The following table describes the file formats supported.

File Formats Supported	Import	Export
AVI DV25 or uncompressed (.avi)	✓	✓
Windows Media (.wmv)	✓	✓
General Exchange Format (*.gxf)	✓	✓
MPEG Program and Elementary Streams (.mpg, .m2v, .m2p, .m2, .mpeg, .vob)	✓	✓
Quicktime (.qt, .mov)	✓	

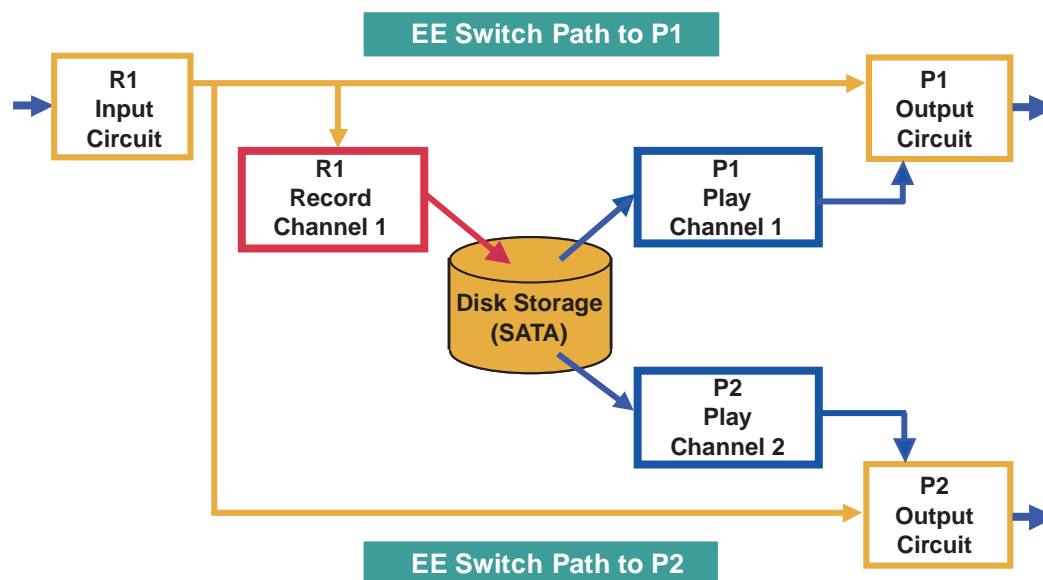
**Importing: Still images and still image sequences** – You can import still image files and still image sequences from local drives or network devices. The Turbo iDDR supports the following graphic file formats: .jpg, .bmp, .tiff, .tga, .gif, .png.

**Remote control support** – You can use remote control devices and applications software developed for the Turbo iDDR that use industry-standard serial protocols. For each supported protocol, the iDDR provides a protocol-specific application. Supported protocols includes BVW over RS422 and AMP protocol over RS422 or Ethernet.

**GPI triggers** – GPI input triggers can be assigned to channels to control actions such as record, play, stop, and skip a playlist event. GPI output triggers can be assigned to play channels and inserted in playlists to control external equipment as the list is played.

## Functional description

The diagram illustrates how the three iDDR channels operate independently, but share a common internal disk storage area. This gives all channels, one record channel and two play channels, simultaneous random access to the same media files. This means that you can play a clip that is still recording on the record channel. Each channel handles one video track, two audio tracks, and one timecode track.



## About E-to-E mode

Note that an E-to-E path is provided for monitoring purposes. In E-to-E mode, the record channel audio and video inputs are switched to the play channel audio and video outputs when the play channel is in stop mode or when no clip is loaded. This allows you to monitor the record channel inputs while recording. The following table describes play channel operation depending on the E-to-E selection.

E-to-E Setting	Play channel mode	Play channel output
E-to-E Disabled	Play, FF, Rewind	Show clip
	Stop	Show clip
	Eject	Show black
E-to-E Enabled	Play, FF, Rewind	Show clip
	Stop	Show input <sup>a</sup> .
	Eject	Show input <sup>a</sup> .

<sup>a</sup>. Output is black if no video input is connected to **R1**. DVI-I output does not support E-to-E.

## E-to-E considerations

When E-to-E mode is enabled, you can connect an external reference signal which is synchronous to the video input. This will eliminate artifacts on the play channel output (periodic vertical shift) due to routing an asynchronous signal through the iDDR. However, this is not required for recording, the iDDR can record asynchronous signals.

**NOTE:** *E-to-E is provided for monitoring the record channel, and is not intended as a program switch.*

## Media disk space: How media is stored

When media is recorded or imported, it is stored on the iDDR internal disk drives as a multimedia *clip*. You can play clips individually, or you can create a playlist to play several clips in sequence. Playlists are saved and can be loaded again at anytime. The iDDR automatically prevents media referenced by a playlist from being deleted.

Clips can be edited by modifying the clip mark-in and mark-out points. This determines the first and last frame of video when the clip plays. Playlists can also be edited by moving or removing the events in the list.

All clips and playlists stored in the media file system are organized using *bins*. A bin functions much like a directory in a conventional file system, except bins cannot be nested, that is, a bin cannot contain other bins. You can create, name, and delete bins to organize your clips and playlists. There must always be at least one bin in the media file system, if not, the iDDR automatically creates a bin named *default*.

As the media disk space fills, you will need to manage the remaining storage space. Warning messages are displayed when available storage reaches 10% total disk space. All recording is halted when media storage reaches its full threshold.

You can manage media in the following ways:

- **Delete unwanted assets** – Locate and delete unwanted clips and playlists. Deleted assets are moved to the *Recycle Bin*. You must empty the Recycle Bin to free the disk space.
- **Erase unused media** – This is a manual operation that you can perform on individual clips. This operation deletes the clip media that lies outside the clip mark-in and mark-out points. (
- **Clear Media File System** – Use this feature to permanently erase all media stored in the media file system. (See “[Clearing the media file system](#)” on page 279.)

The majority of the internal SATA disk drive space is reserved for media storage. The size of the media storage partition is fixed and cannot be modified.

### Related topics



“Managing media” on page 102  
“Disk Storage Indicator” on page 56



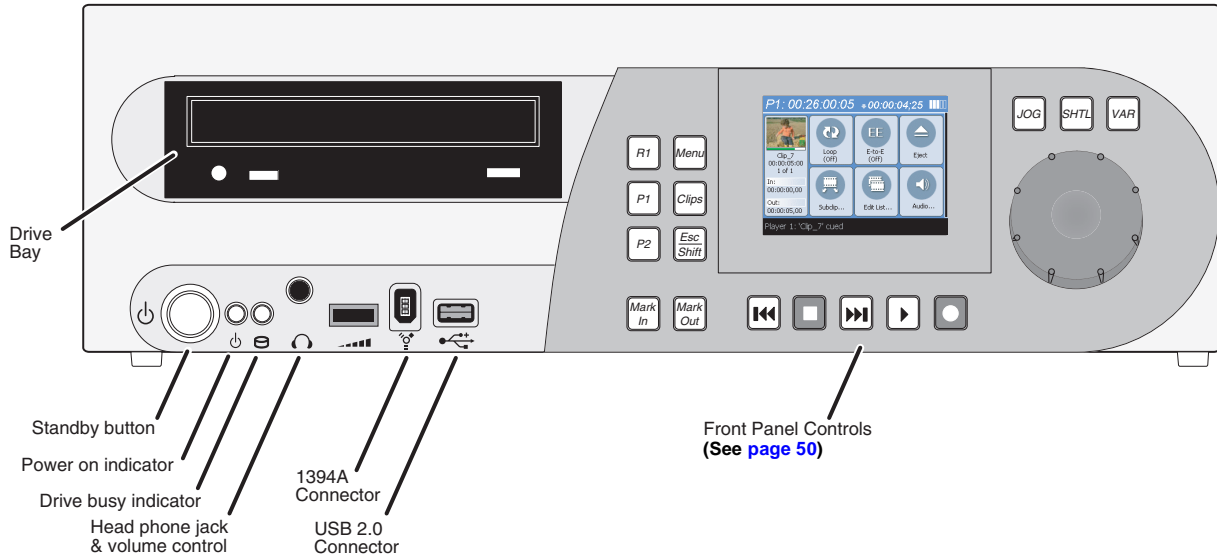
“Managing media” on page 213  
“Displaying available storage space” on page 141

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# Front panel controls and indicators

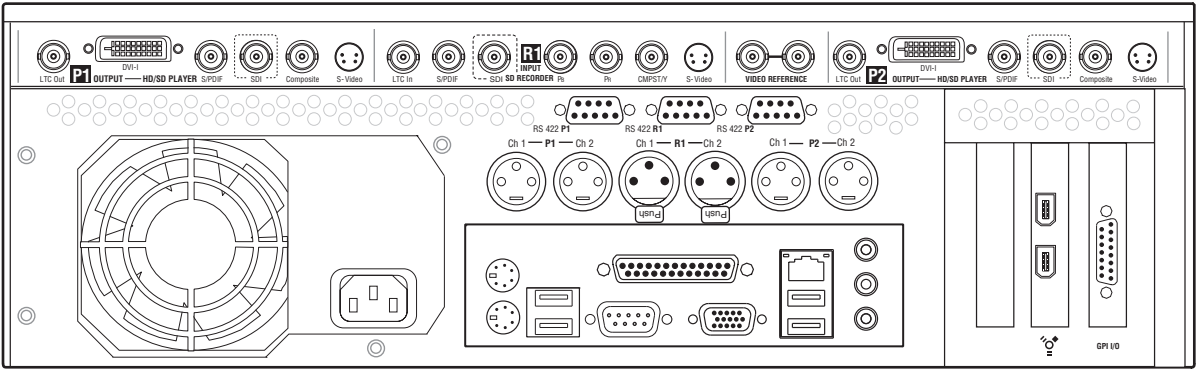
The front panel includes the following controls and indicators:



**WARNING:** The power standby switch does not turn off power to the system. The system must be disconnected from the power source.

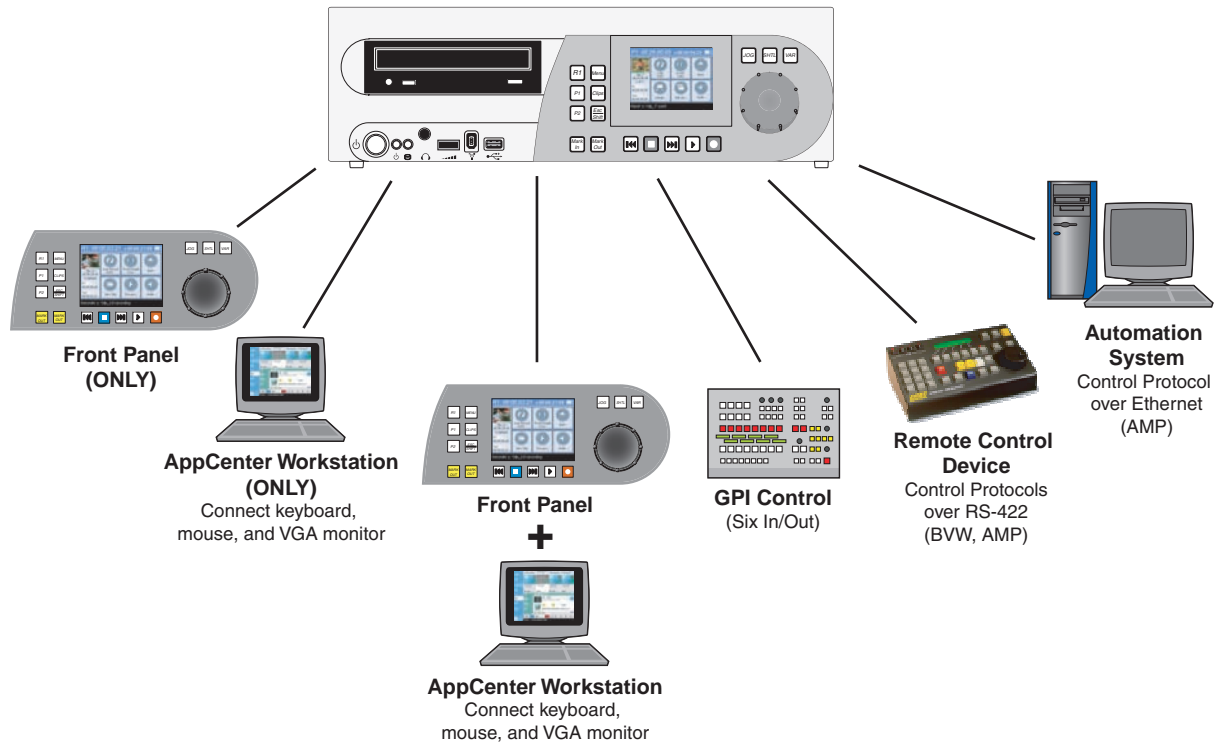
Control or Indicator	Description
Standby Button	Provides system On/Off control  <i>NOTE: If you believe your iDDR is “hung” in an unresponsive state, you can perform a forced shutdown by pressing and holding the standby button for approximately five seconds.</i>
Power-On Indicator	Indicates the standby switch is in the On position and operates as follows: <b>On:</b> Power is on and the Turbo iDDR is operational. <b>Blinking:</b> Turbo needs service. Refer to the <i>Turbo iDDR Service Manual</i> .
Drive busy indicator	Indicates that data is being written or read to disk
Headphone jack and volume control	Used to monitor the audio output signal of the selected channel. Switches automatically when a channel is selected.
IEEE1394A and USB Connectors	Connectors for capable devices; useful for media import/export
Front panel controls	Provides VTR-like controls for operating the iDDR. Refer to <a href="#">“Guide to using the front panel” on page 50</a> .
Drive Bay	Houses the removable media drives.

# Rear panel connectors



## Turbo iDDR control modes

You can control the Turbo iDDR locally the front panel controls or through workstation control mode. You can also control the iDDR remotely.



### Local control modes

**Front panel mode (ONLY)**– The front panel includes a 320 by 240 TFT display with touch screen and VTR-like transport controls. The front panel user interface provides an on-screen keyboard for text entry (entering names and timecode). An external keyboard connected to any USB port can be used for text entry or transport control using keyboard shortcuts. A transport control device that emulates keyboard can be used to control the iDDR through keyboard shortcuts. See [Chapter 3, Operation: Front Panel Control on page 49](#).

**AppCenter Workstation mode (ONLY)**– Connecting a keyboard, mouse and VGA monitor provides access to AppCenter Workstation control application. AppCenter comes pre-installed and provides a graphical user interface for controlling the Turbo iDDR. See [Chapter 4, Operation: AppCenter Workstation on page 113](#).

In addition:

- The mouse is only used on the AppCenter user interface, not the front panel application.
- The mouse and keyboard are used to control the iDDR.
- Front panel transport control buttons functional in AppCenter Workstation mode, i.e. record, play, stop, etc. and Shuttle/Jog.

Connecting a keyboard, monitor and mouse to the rear panel provides access to the AppCenter user interface. You can use mouse and keyboard shortcuts to control the iDDR. The mouse is only used on the AppCenter user interface, not the front panel application. See [Chapter 4, Operation: AppCenter Workstation on page 113](#).

**Front panel and AppCenter mode** – In this mode of operation, the Turbo iDDR is actually in front panel control mode, but AppCenter is still available by connecting a keyboard, monitor and mouse for managing media, for example, moving, copying, transporting or deleting clips.

#### **Remote control modes**

**GPI Control** – GPI input triggers can be assigned to channels to control actions such as record, play, stop, and skip a playlist event. GPI output triggers can be defined for channels and inserted in playlists to control external equipment as the list is played. See [“Setting GPI input triggers” on page 43](#).

**Remote Control Device Using Serial Control Protocols Over RS-422** – The iDDR can be controlled by devices and applications software developed for the Turbo iDDR that use serial control protocols over the RS-422 serial port. See [“Using remote control protocols” on page 252](#).

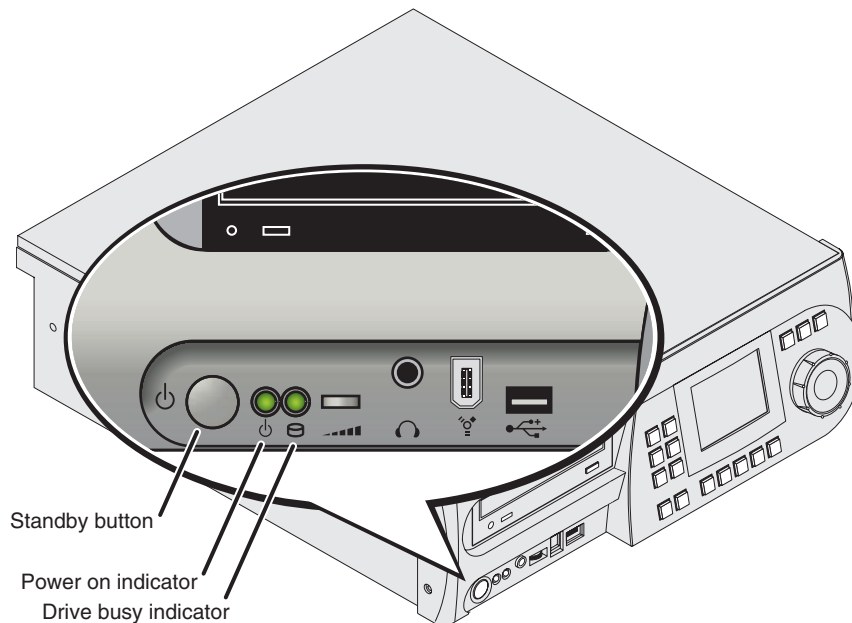
**Automation System Using Remote Control Protocols over Ethernet** – The iDDR can be controlled by devices and applications software developed for the iDDR that use serial control protocols over the Ethernet network. See [“Using remote control protocols” on page 252](#).

## Power-on and shutting down

### To power-on the iDDR

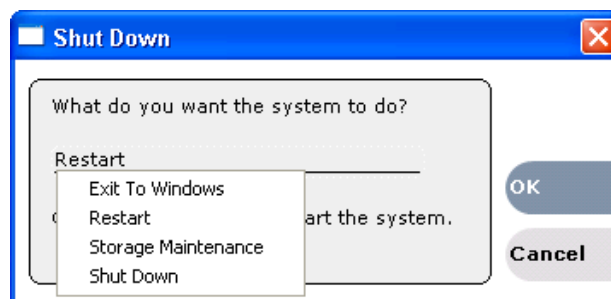
- Press the front panel standby switch to power on the iDDR.

At power-on, the iDDR initializes then starts the Windows operating system which performs automatic logon using the *Administrator* user account.



### To shutdown the iDDR

- Press the front panel standby switch
- or -
- In Workstation mode, click **System** in AppCenter main menu, then choose **Shutdown** in the pop-up menu. Select a shutdown mode, then click **OK**.



Dialog box shutdown modes:

Shutdown Mode	Description
Exit to Windows	Exit AppCenter and display the Windows desktop. Use the desktop shortcut to restart AppCenter.
Restart	Exit AppCenter and restart the Windows operating system. AppCenter will restart automatically.
Storage Maintenance Mode	Exit AppCenter and restart the iDDR in storage maintenance mode to allow maintenance on the media disk subsystem. Refer to the <i>Turbo iDDR Service Manual</i> for procedures.
Shutdown	Shutdown the Windows operating system and power-off the iDDR.

***NOTE: If you believe your iDDR is “hung” in an unresponsive state, you can perform a forced shutdown by pressing and holding the standby button for approximately five seconds.***



***WARNING: The power standby switch does not turn off power to the system. The system must be disconnected from the power source.***

## Accessing the Windows operating system

Some tasks require access to the Windows operating system that runs on the Turbo iDDR, for example, modifying network settings.

### To access the Windows desktop:

1. If in front panel mode, power-off the iDDR, then connect a keyboard, mouse, and VGA monitor.
2. Press the front panel standby switch to Power-on.

The iDDR initializes then starts the Windows operating system which automatically logs on using the *Administrator* user account.



***CAUTION: The Turbo iDDR is not a general purpose Windows workstation. The Windows configuration on the iDDR has been specifically set for use as a real time device. The Turbo iDDR is configured for automatic logon allowing unattended booting. To avoid partial or total system failure, do not modify any operating system settings unless approved by Grass Valley Support. This includes but is not limited to the following:***

- *Do not use the User Manager*
- *Do not use the Disk Administrator*
- *Do not load any third party software*
- *Do not install any Windows updates (these are distributed by Thomson Grass Valley).*





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## ***Configuration: Turbo iDDR***

Information in this chapter includes:

- [“Using the configuration manager” on page 34](#)
- [“About video scaling settings” on page 36](#)
- [“Video output connector compatibility” on page 38](#)
- [“Guidelines for selecting video data rate” on page 38](#)
- [“Configuring your Turbo iDDR” on page 39](#)
- [“Adjusting video output timing” on page 45](#)

## Using the configuration manager

The Configuration Manager is the primary configuration tool for the Turbo iDDR. It makes settings that apply to the overall Turbo iDDR as well as settings that apply to individual channels.

Configuration Manager settings are stored in a database. The Turbo iDDR's current configuration is always based on the settings saved in the database. When the Turbo iDDR starts up it reads the settings from the database and configures itself accordingly. When you modify a setting in Configuration Manager you must save the setting in order to update the database and reconfigure the Turbo iDDR.


You can also save Configuration Manager settings as configuration files. Configuration files are generated by the Configuration Manager application as stand-alone XML files. You can save settings out of Configuration Manager into a configuration file. Likewise, you can load settings into Configuration Manager from a configuration file. However, you must use Configuration Manager as the means to save the settings to the database before the settings actually take effect. Configuration files are not linked directly to the database.

You can use configuration files as a means to back up your settings. You can also use configuration files to save several different groups of customized settings, each with a unique name, so that you can quickly load settings for specialized applications. Refer to [“Saving and restoring your settings” on page 34](#).

## Accessing Turbo iDDR configuration

You can configure your system using either the front panel or the AppCenter Workstation. The front panel uses the Tools menu to access iDDR configuration settings. The AppCenter Workstation uses the Configuration Manager.

To access the configuration settings:

- In front panel mode, press **Menu** , then choose **Tools...** using the control knob.  
- or -
- In the Workstation AppCenter, select **System | Configuration**.

**NOTE:** If the Turbo iDDR is in Workstation mode, refer to [“Enabling front panel control mode” on page 50](#).

## Saving and restoring your settings

Settings can be saved as a configuration file. You can save any number of uniquely named custom configuration files. You can load a configuration file to restore system settings.

**To save custom settings:**

1. In the Configuration Manager, click the **Save** button.  
The Save As dialog opens.
2. Use the up arrow or select folders to navigate to the folder in which you want to save the configuration file.

3. Enter a name for the configuration file.

Do not name the file *DefaultConfig.xml*, as this name is reserved for the factory default configuration file. Otherwise, standard Windows 2000 and up file naming restrictions apply.

4. Click **Save** and **Close**.

**To restore custom settings:**

1. If you want to save current settings, you should save them as a configuration file before continuing.

2. In the Configuration Manager, click the **Load** button.

The Open dialog opens.

3. Use the up arrow or select folders to navigate to the custom configuration file.

4. Select the custom configuration file.

5. Click **Open**.

The custom settings are loaded into Configuration Manager, but they have not been saved and put into effect.

6. Click **OK** to save and apply settings, and to close the Configuration Manager.

## Restoring default settings

You can restore factory default settings as follows:

- You can restore some individual settings or groups of settings by selecting the **Default** button which appears below the settings in the configuration screen.
- You can restore all the settings in Configuration Manager at once to their default values as explained in the following procedure. This is useful for test purposes or for removing site-specific settings when re-installing at a new site.

### AppCenter Workstation

To restore all settings at once to their default values:

1. If you want to save current settings you should work through the previous procedure [“Saving and restoring your settings”](#) before proceeding.


2. In the Configuration Manager dialog, click **Restore**.

The default settings are loaded into Configuration Manager, but they have not yet been saved and put into effect.

3. Click **OK** to save settings and close Configuration Manager.

### Front Panel

To restore all settings at once to their default values:

- On the front panel, press **MENU** , choose **Tools** using the control knob, and select **Restore Defaults**.

## About video scaling settings

The iDDR video scaling feature allows you to play clips with different aspect ratios and picture resolutions on the same play channel. For example, a play channel configured to output standard definition (SD) video can play high definition (HD) clips. The HD clip picture resolution is down-converted to SD and, if needed, the aspect ratio is converted in the process. Similarly, SD clips are up-converted when played on a play channel configured to output HD video.

The play channel uses the following information to determine how to scale the video for playout:

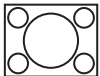

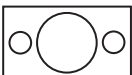



- **Clip aspect ratio attribute** — During record channel setup, you must specify whether the record channel is recording standard or widescreen video. This sets the clip aspect ratio attribute. This attribute is saved as part of the media file and used when the clip is played to determine video scaling. To set up the record channel, see [“Modifying recorder channel \(R1\) settings” on page 39](#).
- **Play channel video type setting** — During play channel setup, you must select the video output type for each play channel— standard or high definition. This will determine if the clip picture resolution needs up-conversion or down-conversion. To set up the play channel video type, see [“Adjusting video output timing” on page 45](#).

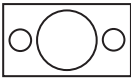




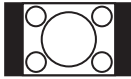

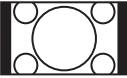

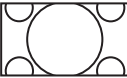
**NOTE:** Some video output connectors become inactive for some video type selections. See [“Video output connector compatibility” on page 38](#).

- **Play channel aspect ratio conversion mode** — For each play channel, you must specify one of three aspect ratio conversion modes to use when the picture image needs resized. Selections include Bars, Crop, Bars & Crop. For more information, see the next section [“About aspect ratio conversion modes”](#).

## About aspect ratio conversion modes

The aspect ratio conversion “mode” or “hint” setting for the play channel determines how the picture image is resized for playout. The following table shows the results of selecting different aspect ratio conversion modes for various video input types and play channel aspect ratio settings. Use the table to determine the settings required for your media type and display device.

Clip	Clip Example	Play Channel Aspect Ratio	Conversion Mode Setting	Output Example	Comments
SD (4:3)		(4:3)	NA		Output same as clip. No rule necessary.
HD (16:9)		(4:3)	Bars (Letter Box)		No information lost.
HD (16:9)		(4:3)	Bars & Crop (Half Letter Box)		Some information lost.

Clip	Clip Example	Play Channel Aspect Ratio	Conversion Mode Setting	Output Example	Comments
HD (16:9)		(4:3)	Crop		More information lost.
HD (16:9)		(16:9)	NA		Output same as clip. No rule necessary.
SD (4:3)		(16:9)	Bars (Pillar Box)		No information lost.
SD (4:3)		(16:9)	Bars & Crop (Half Pillar Box)		Some information lost.
SD (4:3)		(16:9)	Crop (Zoom)		More information lost.

## Video scaling considerations

Take the following into consideration when working with the video scaling features of the Turbo iDDR.

- For the highest video quality, select a play channel video type that eliminates the need for up or down conversion. This requires that you know how the source video was encoded. For example, if an imported clip was encoded at 1920x1080i, set the play channel to the same resolution.
- Some video output connectors become inactive depending on the play channel video type selected.
- You can only set a clip's aspect ratio attribute when it is recorded. Once a clip is recorded or imported, you cannot change the attribute. If you want to change the clip's aspect ratio attribute, you must re-record or import the clip.
- In some cases you might want to deliberately set a clip's aspect ratio attribute "incorrectly". For example, if a widescreen clip is being recorded on the iDDR and it already has an aspect ratio treatment, such as letterbox as part of the media itself, you would not want to again apply letterbox bars when the clip is played out to a SD output, double-boxing. In this case, if you know the clip is destined for a SD output, you can set the widescreen clip's attribute to standard screen so that no aspect ratio conversion takes play on the SD payout.
- The Turbo iDDR can play clips with different aspect ratio attributes in a single playlist.

## Video output connector compatibility

The following table shows which video output connectors are active depending on the play channel video type setting. Use the table when making cable connections. To change play channel video type, refer to [“Adjusting video output timing” on page 45](#).

Play Channel Setting			Video Output Types Available			
Video Type Setting	Resulting Resolution	Aspect Ratio Available <sup>a</sup>	S-Video Composite	SDI	DVI -I	
					Digital	Analog Component <sup>b</sup> (Selectable)
NTSC	720 x 480 I	4:3 or 16:9	✓	✓		VTR: Sony DVD Player: RGB or YPbPr
PAL	720 x 576 I		✓	✓		
XGA	1024 x 768 P	4:3 or 16:9 <sup>a</sup>			✓	Computer Monitor (RGBHV)
WXGA	1365 x 768 P	16:9			✓	
1080i	1920 x 1080i		monitor <sup>c</sup>	monitor	✓	SMPTE 274M (RGB) SMPTE 274M (YUV)

<sup>a</sup>. Aspect ratio conversion method is user selectable— bars, halfbars, or crop.

<sup>b</sup>. Sync on Y or G when 3-wire formats are used.

<sup>c</sup>. The monitor output is down-converted and not timed to the reference input. It is provided for monitoring purposes only.

## Guidelines for selecting video data rate

The type of video and how it will be used largely determines the video data rate setting you should select. It is important to understand the type of material you will be playing and select the appropriate setting. Generally set as high as possible to obtain the storage capacity needed. Also consider the following:

- Sports footage (video containing lots of motion) requires significantly higher video data rates than an interview show.
- Clips with lots of chrominance, typical of many commercials, require higher data rates to maintain quality.
- Higher data rates should be used for any production work that requires multiple generations or when the material is subject to up-conversion to HDTV.


**NOTE:** Information about iDDR system storage capacity for different video data rates, see [“Product overview and key features” on page 21](#).



# Configuring your Turbo iDDR

You can configure your system using either the front panel or the Workstation AppCenter.

## Modifying system settings


To access system settings:




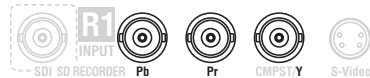
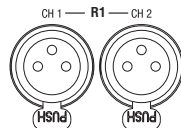

- On the front panel, press **MENU** , then choose **Tools** using the control knob, and select **All Channels**.
- or -
- In the Workstation AppCenter, select **System | Configuration**, then click **System**.

Select a menu item...	And make settings as needed...	
<b>Video Reference standard</b>	<b>NTSC (59.94 Hz)</b>	Choose for the NTSC standard.
	<b>PAL (50 Hz)</b>	Choose for the PAL standard.
	 <b>Reference Present</b>	Green LED indicates source is present. Black LED indicates source is not present.
	 <b>Reference Locked</b>	Green LED indicates system is locked. Black LED indicates system is not locked.
<b>Time of day source</b>	The time of day source is used for event scheduling, such as automatic play and record events.	
	<b>System Clock</b>	The local Windows operating system clock. If you select this source you should verify that the clock's time is correct
	<b>LTC Input</b>	The channel's LTC input.
<b>Audio reference level</b>	<b>0 dBu</b>	Select the audio reference level used at your facility.
	<b>+4 dBu</b>	
	<b>-4 dBu</b>	

## Modifying recorder channel (R1) settings

To access recorder channel settings:

- On the front panel, press **MENU** , then choose **Tools** using the control knob, and select **R1 Setup**.
- or -
- In the Workstation AppCenter, select **System | Configuration**, and click **Channel**.


Select a menu item...	And make settings as needed...		
<b>Recorder Setup</b>	<b>Compression Format</b>	<b>MPEG</b>	Only the MPEG compression format is supported.
	<b>Recording Data Rate</b>	<b>4Mb/s   -   -   15Mb/s</b>	Select 4, 8, 12, or 15 Mb/s. All settings are long GOP. Refer to <a href="#">“Guidelines for selecting video data rate” on page 38.</a>
	<b>Video Noise Reduction</b>	<b>None Low Medium High</b>	Reducing video noise can improve picture quality at low video data rates. Too much noise reduction, however, can cause loss of detail and create posterization artifacts. It’s best to experiment with different settings to achieve the best result.
<b>Video Input</b>	<b>Input Type</b>	Select based on how you connected your system.	
		<b>SDI</b>	Choose if using SDI input. 
		<b>S-Video</b>	Choose if using S-Video input. 
		<b>Analog Composite</b>	Choose if using Composite input. 
		<b>Analog Component</b>	Choose if Y-Pr-Pb (DVD player is connected.) 
<b>Audio Input</b>	<b>Audio Input Type</b>	<b>Analog</b>	Select when using analog input. 
		<b>Digital (S/PDIF)</b>	Select when using digital input. 
	<b>Audio Input Trim</b>	<b>+/-12dB</b>	For the Analog audio input type only.
	<b>Audio Input Format</b>	<b>16-bit PCM AC-3</b>	For the Digital (S/PDIF) audio input type only.
	<b>Timing Offset</b>	<b>+/-200 ms</b>	Select the timing offset for the record channel.
<b>Channel Monitoring</b>	<b>Display Audio Meters</b>	<b>Yes No</b>	Available in the AppCenter Configuration Manager only.



## Modifying player channel (P1 and P2) settings

For help in making output type and aspect ratio settings, refer to [“About video scaling settings” on page 36](#).

To access player channel settings:


- On the front panel, press **MENU** , then choose **Tools** using the control knob, and select **P1** or **P2 Setup**.
- or -
- In the Workstation AppCenter, select **System | Configuration**, click **Channel**, and select the **P1** or **P2** tab.

Select a menu item...		And make settings as needed...	
Video Output	Video Output Format	NTSC (SD)	Select the video format for the play channel(s).
		XGA (1024 X 768)	
		WXGA (1365 X 768)	
		1080i (1920x1080)	
	Aspect Ratio	Standard Widescreen	These choices available when Video output type is NTSC, PAL, or XGA.
	Aspect Ration Conversion	Bars Crop Bars and Crop	Refer to <a href="#">“About video scaling settings” on page 36</a> .
	Output Component Type	RGB Y, Pb, Pr	Select your component type.
	Output Pedestal	On Off	Select the appropriate pedestal setting.
	Still-play mode	Still-Play mode settings determine how to generate the still-play signal for the play channel when it is setup to freeze on last frame of video in stop mode. You can select line interpolated, or interlaced. Note that in normal play mode, the play channel can be setup for E to E mode instead of displaying freeze frame in stop mode. E to E mode is enabled/disabled in the application running on the channel. Refer to <a href="#">“Selecting E-to-E mode” on page 76</a>	
		Field (interpolated)	This is the default setting and uses the content of one field for both fields during still-play for a one field freeze. This mode eliminates the motion jitter that can be present in Interlaced mode.
		Frame (Interlaced)	This mode displays two fields in still play mode for a two field freeze. With this mode you might see some motion jitter in still-play.

Select a menu item...		And make settings as needed...	
Video Output, cont.	Test Mode (colorbars)	On Off	Temporarily displays 75% colorbar signal on the channel output. This setting is for test purposes only, so it is not saved.
ProcAmp Control	Video Gain	0-255	These controls adjust the color balance in the video image and should only be adjusted to correct a problem with a faulty clip or with external output equipment. Otherwise, leave these controls at their default settings.
	Chroma Gain	0-255	
	Chroma Phase	-127 to +128	
	Black Level	0-15	
	Sharpness	0-12	
Video Output Timing	Frame Offset	Delays the video output. Range: NTSC 0-1 frames, PAL 0-3 frames	
	Line Offset (coarse)	Delays the video output. Range: NTSC (525 lines) 0-524 lines, PAL (625 lines) 0-624 lines.	
	Sample Offset (fine)	Delays the video output. Range: NTSC (525 lines) 0-1715 clock samples, PAL (625 lines) 0-1727 clock samples.	
	Analog Sub-pixel Offset	Delays the timing within one sample interval. This setting applies to analog video only and is available only if the video output type is NTSC or PAL.	
Audio Output	Timing Offset	+/-200 ms	Select the timing offset for the record channel.
Channel Monitoring	Display Audio Meters	Yes No	Available in the AppCenter Configuration Manager only.

## Modifying the front panel setup


To access front panel settings:

- On the front panel, press **MENU** , then choose **Tools** using the control knob, and select **Panel Options**.
- or -
- In the Workstation AppCenter, select **System | Configuration**, and click **Panel**.

Select a menu item...		And make settings as needed...	
<b>Jog/Shuttle</b>	<b>Jog Speed</b>	<b>-1X to 1X</b> <b>-1X to 3X</b>	Controls the sensitivity of the Jog/Shuttle knob on the front panel.
	<b>Shuttle Speed</b>	<b>-16X to 16X</b> <b>-32X to 32X</b>	
	<b>VAR Setting</b>	<b>0.25 X</b> <b>0.5 X</b> <b>0.75 X</b>	Specifies the preset play speed used when variable speed play is selected.
	<b>Always Start at VAR Preset</b>	<b>Yes</b> <b>No</b>	When this option is selected, whenever you press the VAR button, the initial play speed is determined by the VAR preset setting. Then you can adjust the play speed using the Jog/Shuttle knob (RANGE: $\pm 1$ x normal playback speed). When this option is cleared, the initial play speed is determined by the play speed last set by the Jog/Shuttle knob.

## Setting GPI input triggers

To access GPI input settings:


- On the front panel, press **MENU** , then choose **Tools** using the control knob, and select **GPI Input Triggers**.
- or -
- In the Workstation AppCenter, select **System | Configuration**, click **GPI**, then click the **GPI-Input** tab.

On the GPI Input Triggers menu, select...	And make settings as needed...	
<b>Trigger channel(s)</b>	<b>None</b>	No GPI inputs are set.
	<b>R1</b>	The GPI input controls channel R1.
	<b>P1</b>	The GPI input controls channel P1.
	<b>P2</b>	The GPI input controls channel P2.

On the GPI Input Triggers menu, select...	And make settings as needed...	
Trigger action	<b>Play</b>	Play current loaded clip or playlist in assigned Player channel.
	<b>Record</b>	Start recording a clip in Recorder channel.
	<b>Stop</b>	Stop playback or record of assigned channel.
	<b>Rewind</b>	Rewind playback of assigned channel. Channel will stay in rewind mode until the beginning of clip is reached or another transport action is taken.
	<b>Fast Forward</b>	Fast forward playback of assigned channel. Channel will stay in the fast forward mode until the end of clip is reached or another transport action is taken.
	<b>Cue Start</b>	Cue to start of clip loaded in Player or Playlist channel.
	<b>Cue End</b>	Cue to end of clip loaded in assigned channel.
	<b>Eject</b>	Ejects the current clip.
	<b>Preview</b>	The current clip in the record channel is loaded in play channel P1. <i>NOTE: You can use <b>Eject</b> prior to <b>Preview</b> if a clip is already loaded in the Play channel.</i>
	<b>Cue Next Event</b>	Goes to next event in a Playlist and stops.
	<b>Cue Prev Event</b>	Goes to previous event in a Playlist and stops.
Active	<b>VAR Playback</b>	Plays loaded clip in variable speed play mode with pre-set speed as set in <i>“Modifying the front panel setup” on page 43.</i>
	<b>High</b>	Select the active signal (high or low) required. This is determined by the external equipment connected to the GPI input.
	<b>Low</b>	

## Setting GPI output triggers

To access GPI input settings:

- On the front panel, press **MENU** , then choose **Tools** using the control knob, and select **GPI Output Triggers**.
- or -
- In the Workstation AppCenter, select **System | Configuration**, click **GPI**, then click the **GPI-Output** tab.

On the GPI Output Triggers menu, select...	And make settings as needed...	
<b>Channel</b>	<b>None</b>	No GPI output triggers are set.
	<b>R1</b>	Channel R1 triggers the GPI output.
	<b>P1</b>	Channel P1 triggers the GPI output.
	<b>P2</b>	Channel P2 triggers the GPI output.
<b>Name</b>	<b>GPI-Out-X</b>	Enter the name of the action triggered by the GPI output.
<b>Active</b>	<b>High</b>	Select the active signal (high or low) required. This is determined by the external equipment connected to the GPI output.
	<b>Low</b>	

## Adjusting video output timing

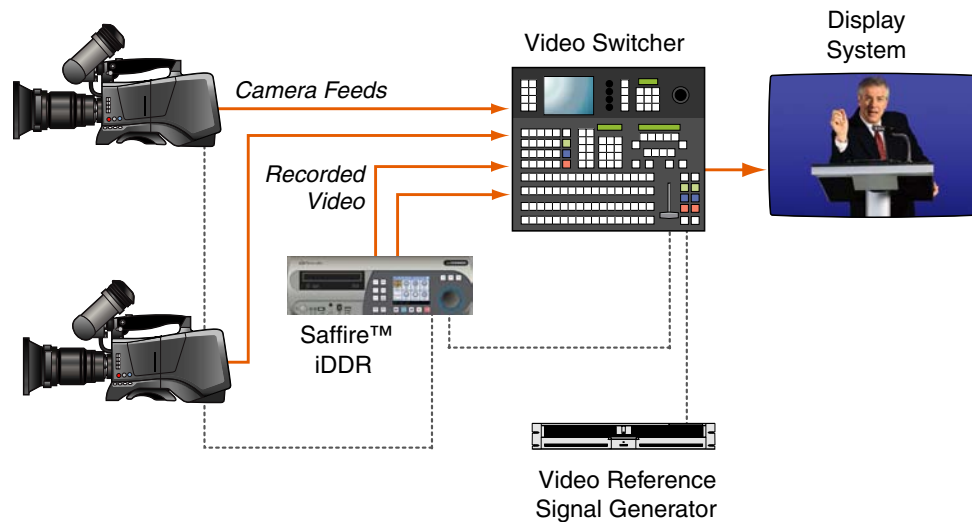
When integrating the iDDR into a video system, you may be required to use a video reference signal to synchronize the iDDR and other video sources. This ensures a stable picture on the display device when switching between other video sources.

Topics here include:

- [“Using the video reference input” on page 45](#)
- [“Video timing principles” on page 47](#)
- [“To adjust video output timing” on page 47](#)

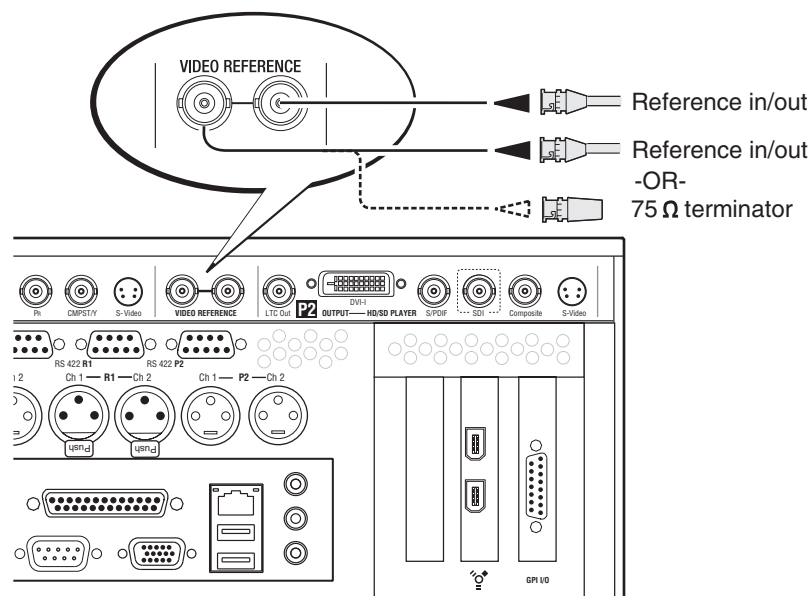
## Using the video reference input

The video reference signal is used to synchronize equipment in a video system so that video output signals can be combined and switched with other signal sources smoothly. Without synchronization, switching between signal sources will produce picture jumps and rolls while the display device re-synchronizes.



**NOTE:** Some seamless video switchers contain frame lock circuitry that eliminates the need to synchronize the iDDR. Refer to your video switcher documentation to determine if you need to synchronize and time the iDDR.

The iDDR uses a composite analog video reference signal connected to the video reference loop-through connector. The loop-thru must be terminated using a 75 ohm terminator unless the signal is cabled (looped-through) to another device. A synchronizing generator, or composite analog signal from a stable video source can be used as a video reference signal.



## Video timing principles

If a video reference signal is used to synchronize the iDDR, all video outputs are zero-timed, that is, the video output delay exactly matches the video reference signal timing. You can use the iDDR video timing controls to make playout timing adjustments to compensate for propagation delays through cabling and equipment in the video system. This ensures that the iDDR output signals can be combined and switched with other signal sources smoothly.

**NOTE:** The iDDR video output is not zero-timed in E-to-E mode and should not be used in a timed video system. E-to-E mode is provided for monitoring purposes only and is not intended as a program switch. See [“About E-to-E mode” on page 23](#).




## To adjust video output timing

By default, all video output timing is set to match the video reference input signal (zero-timed). You can use the *Video Output Timing* adjustment, provided for each play channel to meet downstream timing requirements.

1. To adjust video output timing:

- In the Workstation AppCenter, select **System | Configuration**, then select the Channel tab, and click the P1 or P2 channel to configure.

— or —

- In front panel mode, press a play channel button— or , then press **Menu** , select Tools using the control knob, and choose **P1 or P2 Setup**.

2. Use the control knob to adjust video output timing as required.

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### Make adjustments as needed...

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<b>Frame Offset</b>	Delays video output. Range: NTSC 0-1 frames, PAL 0-3 frames
<b>Lines (coarse)</b>	Delays the video output. Range: NTSC (525 lines) 0-524 lines, PAL (625 lines) 0-624 lines.
<b>Samples (fine)</b>	Delays the video output. Range: NTSC (525 lines) 0-1715 clock samples, PAL (625 lines) 0-1727 clock samples.
<b>Analog Sub-Pixel (SC)</b>	Delays the timing within one sample interval. This setting applies to analog video only and is available only if the video output type is NTSC or PAL.

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## ***Operation: Front Panel Control***

Topics here include:

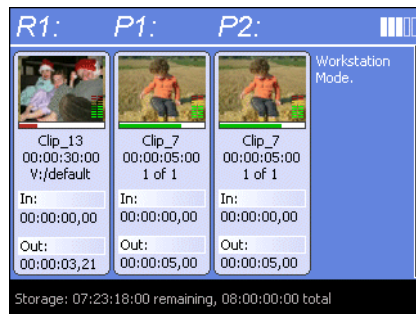
- “Guide to using the front panel” on page 50
- “Recording clips” on page 57
- “Playing and editing clips” on page 70
- “Playing playlists” on page 83
- “Importing and exporting media” on page 97
- “Managing media” on page 102
- “Monitoring operation using the Status Bar” on page 110

## Guide to using the front panel

This section includes the following topics:

- “Enabling front panel control mode” on page 50
- “Locking the front panel” on page 50
- “Using the front panel controls” on page 51
- “Conventions used in the front panel display” on page 55

### Enabling front panel control mode




#### Front panel display in Workstation mode

If your iDDR is in Workstation mode, you can switch to front panel control mode using the front panel controls or from Workstation display on the VGA monitor.

**NOTE:** When the iDDR switches to front panel mode, AppCenter releases control of all iDDR channels and operation is interrupted.

To enable to front panel control mode, do one of the following:

- In AppCenter, click **View**, then select **Front Panel**.
- or -
- On the front panel, press , then select **Front Panel**.

### Locking the front panel

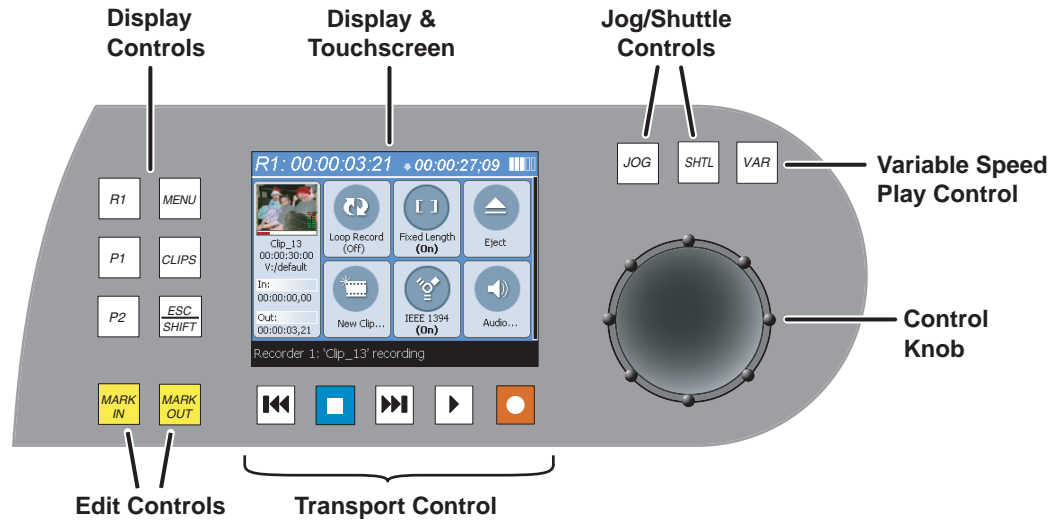
Locking the front panel prevents accidental interruption of iDDR operation.

- To lock the front panel, press the **MENU** button, then use the control knob to scroll and select **Tools**, then select **Lock Out Panel**.
- To unlock the front panel, press the front panel **ESC/SHIFT** and the **MENU** buttons, then uncheck **Panel Locked**.

## Using the front panel controls





















The front panel consists of four main components: the display controls, display and touch screen, the edit controls, and the transport controls including the control knob.



























**NOTE:** The front panel transport controls (i.e. play, record, stop, etc.) are also used to control the iDDR in Workstation mode.



The following table describes the front panel controls.

Display & Touchscreen	
Used to display and operate the front panel mode graphical user interface.	TFT display and touch screen
<b>NOTE:</b> In AppCenter Workstation mode, the front panel display is only used to monitor iDDR status.	
Playing a Clip	
<b>Record</b> – Hold down PLAY, then press REC.	<div>▶ + ■</div> <div>---or---</div> <div>■</div>
<b>NOTE:</b> Can be configured for pressing Record only.	
<b>Stop</b> – Press STOP to stop Record/Play.	■
<b>Play</b> – Press PLAY to start playback.	▶
<b>Rewind</b> – Hold down REW, then release the button to cause the clip to return to the previous mode.	⏮
<b>Fast Forward</b> – Hold down FF, then release the button to cause the clip to return to the previous mode.	⏭
<b>Frame reverse</b> – Tap and release the REW button.	⏮
<b>Frame advance</b> – Tap and release the FF button.	⏭

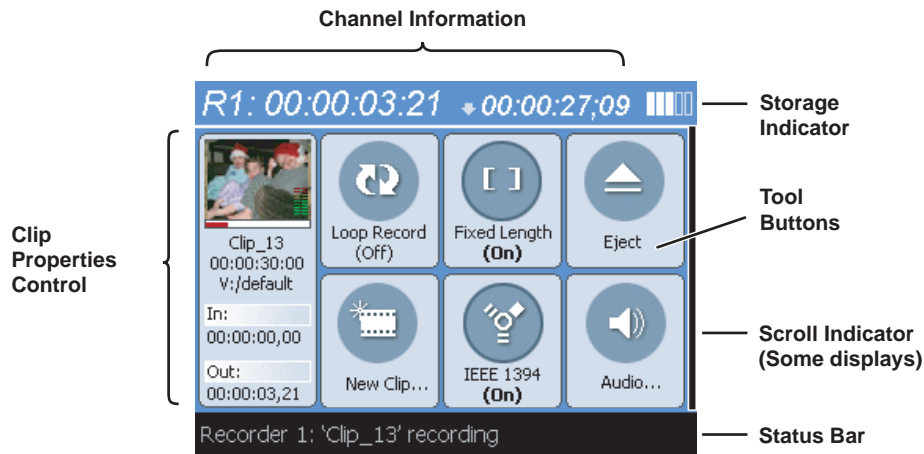
<b>Cue to beginning of clip</b> – Hold down STOP (or SHIFT), then press REW.	 +  -- -or- --  + 
<b>Cue to end of clip</b> – Hold down STOP (or SHIFT), then press FF.	 +  -- -or- --  + 
<b>Play from the beginning of the clip</b> - Press PLAY (or SHIFT), then press REW.	 +  -- -or- --  + 
<b>Go to the end of the clip</b> - Press PLAY (or SHIFT), then press FF.	 +  -- -or- --  + 
<b>Using the Control Knob</b>	
<b>Jog</b> – Press <b>JOG</b> , then turn knob. Playback advances or retards one frame at a time according to the direction and rotational speed of the knob. The range of jog speeds is $\pm 1x$ .	Control Knob
<i>NOTE: Range of jog speeds can be set for <math>\pm 1x</math> or <math>\pm 3x</math>.</i>	
<b>Shuttle</b> – Press <b>SHTL</b> , then rotate the knob for $-32x$ to $+32x$ normal playback speed.	
<i>NOTE: Range of shuttle speeds <math>\pm 16x</math> or <math>\pm 32x</math>.</i>	
<b>Variable Speed Play</b> – (slo-mo) Press <b>VAR</b> . Off-speed play begins. You can rotate the knob to set the play speed (RANGE: $\pm 1x$ normal playback speed), otherwise, speed remains at the preset play speed or the last variable play speed used. Variable play speed is implemented using interpolated line and field smoothing.	
<i>NOTE: Preset can be set to .25x, .5x or .75x. Initial play speed can be set to start at either the preset speed, or the last play speed set by the Jog/Shuttle knob.</i>	
<b>Scroll and Select items</b> – Used in the front panel display to make selections. Rotate the knob to highlight items in lists or menus that appear in the front panel display, then push in (bump) the knob to select the highlighted item.	
<b>Playing a playlist</b>	
<b>Stop</b> – Press STOP to stop play.	
<b>Play</b> – Press PLAY to start playing the list from the current position (Time Cursor).	
<b>Rewind</b> – Hold down REW, then release the button to cause the list to return to the previous mode.	
<b>Fast Forward</b> – Hold down FF, then release the button to cause the list to return to the previous mode.	

<b>Skip to previous event in a list</b> – Hold down STOP (or SHIFT), then press REW.	 +  -- -or- --  + 
<b>Skip to next event in a list</b> – Hold down STOP (or SHIFT), then press FF.	 +  -- -or- --  + 
<b>Play previous event</b> – Press PLAY (or SHIFT), then press REW.	 +  -- -or- --  + 
<b>Play next event</b> – Press PLAY (or SHIFT), then press FF.	 +  -- -or- --  + 
<b>Play previous section</b> – Press PLAY (or SHIFT), then press and HOLD REW	 +  (Hold) -- -or- --  + 
<b>Play next section</b> – Press PLAY (or SHIFT), then press and HOLD FF.	 +  (Hold) -- -or- --  + 
<b>Skip to first selected event and stop</b> – Press STOP, then select an event.	 + <Selection>
<b>Skip to first selected event and play</b> – Press PLAY, then select an event.	 + <Selection>

Display Controls		
Show the Recorder display.	<div>R1</div>	
Show the Player 1 display.	<div>P1</div>	
Show the Player 2 display.	<div>P1</div>	
Open the menu for the current display.	<div>MENU</div>	
Open the Configuration menu.	<div>MENU</div>	+ scroll to select Tools
Show the Clips display.	<div>CLIPS</div>	
Show Bins display	<div>CLIPS</div> + <div>CLIPS</div> <div>ESC SHIFT</div> + <div>CLIPS</div>	
Modify the next button press.	<div>ESC SHIFT</div>	
Edit Controls		
Set clip mark in to the current play position.	<div>MARK IN</div>	
Clear mark in value.	<div>ESC SHIFT</div> + <div>MARK IN</div>	
Set a clip mark out to the current play position.	<div>MARK OUT</div>	
Clear mark out value.	<div>ESC SHIFT</div> + <div>MARK OUT</div>	





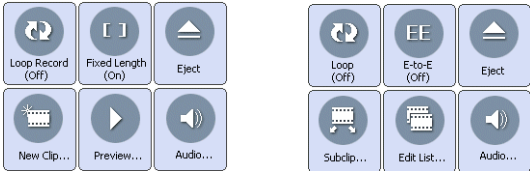
## Conventions used in the front panel display

The front panel display includes touch screen controls and indicators for the control mode you've selected—Recorder, Player, Clips. Each control mode includes some unique controls, however, some conventions are used in all control modes.



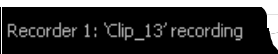


The following table explains the front panel display conventions:

Control	Description and User Operation
<b>Channel Information</b>	
<b>Channel Label</b> 	Displays the delegated channel number. In this case, the first, and only, recorder <b>R1</b> . The channel label appears in the upper left corner of every display and menu.
<b>Timecode</b> 	Indicates the current timecode of the timecode source selected for the channel. Text color is white during record, and dimmed at other times. The timecode value of <i>xx:xx:xx:xx</i> is displayed when the timecode source is not present or is invalid.
<b>Countdown</b> 	Displays the time remaining in the clip for a fixed length record. For other recording modes (crash, continuous), the countdown is not shown.
<b>Clip Properties Control</b>	
<b>Thumbnail</b> 	Used to visually identify the clip or playlist. The image is generated from the 16th image of the clip.
	An “empty” monitor bitmap is used when no clip is loaded. Once recording begins, a thumbnail is shown using the 16 <sup>th</sup> frame of video. During a continuous record, a new thumbnail is generated every three minutes once the record loop length is reached.
	A gray monitor bitmap with the text “no video” is shown when the Recorder is not receiving a video signal.

Control	Description and User Operation
	An empty monitor bitmap with a black X is used if a thumbnail cannot be created. There may be a problem recording the input video.
	When the recorder is in IEEE 1394 record mode, the 1394 symbol is displayed on the when playback stops. This is used to distinguish 1394 control from image displayed when not clip is loaded.
<b>Audio meters</b> 	Small audio meter bars are shown in the lower right corner of the thumbnail. These are used as audio signal indicators.
<b>Clip Name</b> Clip_13	Displays the clip's name. When no clip is loaded, this control shows, <no clip>.
<b>Clip Location</b> V:/default	When a clip is loaded that has no length, such as after a <b>New Clip</b> menu selection, the clip length is blank. The length is also blank when no clip is loaded. During a crash record, the length increases until recording is stopped. During a fixed length record, the length shows the duration at which recording will be stopped automatically. During a continuous record, the length shows the record buffer length. In both fixes and continuous record modes, the length value does not change.
<b>Mark In</b> In: 00:00:00,00	Displays the current clip's location. When no clip is loaded, this control shows the current bin. The current bin can be changed from the Bin display.
<b>Mark Out</b> Out: 00:00:03,21	Shows the timecode at the start of the clip.
<b>Clip Length</b> 00:00:30:00	Shows the timecode at the current record position. When recording ends, this value will be one field greater than the last playable timecode.
<b>Tools and Indicators</b>	
<b>Disk Storage Indicator</b> 	Graphically represents remaining storage. <div><div>0% Full</div><div>60% Full</div><div>95% Full</div><div>Full</div></div>
<b>Tool Buttons</b> 	The Player and Recorder displays include tool buttons for controlling the channel operation.



Control	Description and User Operation
<b>Scroll Indicator</b> 	<p>The scroll indicator appears on the right side of every display and menu. The black bar represents the viewable portion of the display. The white area outside the black bar indicates the portion of the display that is above or below the current view</p> <p><b>Nothing to scroll</b></p> 
<b>Status Bar.</b> 	<p>Displays messages that indicate the current state of the channel selected. For more information, refer to <a href="#">“Monitoring operation using the Status Bar” on page 110.</a></p>

## Recording clips

The recorder display is used to record clips on the iDDR. You can play the clip while it is still recording, or you can finish the recording, and then play the clip or add it to a playlist.

This section includes the following topics:

- [“About recording clips” on page 58](#)
- [“About loop record mode” on page 58](#)
- [“Guide to using the front panel Recorder display” on page 60](#)
- [“Before you record: Recorder settings checklist” on page 62](#)
- [“Features in the Recorder context menu” on page 64](#)
- [“To record a clip” on page 65](#)
- [“Using IEEE 1394 Record mode” on page 66](#)
- [“Previewing a clip that is recording” on page 67](#)
- [“Changing the timecode source” on page 1](#)
- [“Selecting widescreen mode” on page 68](#)
- [“Changing the current bin” on page 68](#)
- [“Renaming a clip” on page 69](#)
- [“Viewing clip properties” on page 69](#)
- [“Locating a clip” on page 69](#)

## About recording clips

**Select record channel signal inputs** – Before you start recording, you may need to select video, audio, and timecode inputs. Refer to [“Modifying recorder channel \(R1\) settings” on page 39](#).

**Missing or intermittent LTC timecode** - If LTC is the selected timecode source and the LTC signal is missing, i.e. LTC not connected, the current timecode display shows XX:XX:XX:XX. Also, clips recorded without timecode will show no mark-in/mark-out timecode after recording. When LTC is detected, but the signal is intermittent, the last valid timecode is displayed anytime the LTC signal disappears. Clips with missing or intermittent timecode will show this behavior during playback in a play channel. If LTC is intermittent or missing, try one of the following solutions:

- Use the internal timecode generator as the timecode source for recording.
- Stripe the timecode after the clip is recorded using the Player application. See [“Stripping timecode \(replacing the timecode track\)” on page 66](#).

**Using the video input noise reduction filter** – The video input noise reduction filter provides pre-filtering to enhance the picture quality.

**Re-recording and appending clips is not supported through the user interface** – You cannot record over a previously recorded clip. To replace the unwanted clip, delete it and record a new one. Also, appending previously recorded clips is not supported, that is, once the recording is stopped, you cannot start the recording again using the same clip. If a clip is currently loaded when record is selected, the clip is ejected, and a new clip is created before recording begins.

***NOTE:** Appending previously recorded clips is supported through AMP Serial Control Protocol. Contact Thomson Grass Valley for more information on control devices available.*

**Pre-roll time** — Recording begins as soon as record is selected.

## About loop record mode

Loop record allows you to specify a fixed length recording that records continuously. When the fixed length you specify is reached, iDDR begins to erase the oldest media in 3 minute segments to make room for new media. In this way, new media is continuously recorded while the recording is kept to a fixed length.

The loop recording is stored in the iDDR as a [program](#). The program thumbnail is displayed in the clips pane immediately after the recording starts. While recording, you can load the loop record program in Player mode for playout or to create subclips. The media referenced by the subclips that you create is saved outside the loop record program and does not subtract from the loop record length. The subclips can be inserted in Playlist mode as play events.

### Loop mode operational considerations

Consider the following when planning for Loop Record operation:

- **Minimum loop record length**– 6 minutes
- **Maximum loop record length**– Maximum record length is limited by the amount

of storage space and the compression settings used. A message is displayed if the fixed length you enter exceeds the available disk space.










- **Minimum record to playback time**– 5 seconds. In other words, playback in loop record can start no sooner than 5 seconds after the start of record.
- **Modifying the loop record name or length**– You can modify the loop record name or length during record. If you reduce record length, the oldest media outside the new record length is erased.
- **Stopping loop record**– If the recording is stopped before the fixed length is reached, the resulting program duration is the time elapsed since the recording started. Like normal record mode, you cannot stop, then start a loop recording. Once record is stopped, you must eject the program and create a new loop record.
- **Transferring the loop record program**– The loop record program cannot be transferred to a file or networked device until record is stopped.
- **Loop record storage space is not reserved**– Loop record is allowed to start as long as the record length you enter is less than the available storage, however, the storage space is not reserved. For example, you may have enough storage space to start the loop record, but you are still allowed to transfer media or otherwise fill disk space. Warning messages are displayed in the AppCenter StatusBar when available storage reaches 10% total disk space. All recording is halted when media storage reaches its full threshold.
- **Pausing the loop record program in Player mode**– You cannot pause the loop record program in Player mode indefinitely. Eventually, the record length is reached and the video at the current position is erased. As this happens, the current position is advanced in 3 minute increments as the oldest unused media is erased.
- **Changing thumbnail image**– Thumbnail images displayed in the clips pane are generated using the 16th frame of video. The thumbnail image for a loop record program appears as normal until the fixed length is reached. Then, the thumbnail will update every 3 minutes as media is erased beginning with the oldest unused media. As the media used to generate thumbnails is erased, new thumbnails are generated.
- **Erasing oldest media is suspended when creating a subclip**– When creating subclips in Player mode, erasing oldest media is suspended when the first mark is entered (mark-in or mark-out). This means that the loop record program length may grow larger than the length specified. Erasing media is resumed and the oldest media outside the fixed length is purged when the second mark is entered and you select the Accept button. You could inadvertently fill storage space if you enter the subclip marks, but fail to click the Accept button.  
NOTE: Erasing oldest media is also resumed when you exit subclip mode by ejecting the subclip, or by clicking the Source Clip button.
- **Use genlocked inputs for time delay**– For error free time delay operation, ensure that the video input is genlocked to the video reference signal. [See “Using the video reference input” on page 45](#). This will eliminate periodic picture shift.

## Guide to using the front panel Recorder display

The Recorder display is shown when the **R1** panel button is pressed. The following describes the controls in the Recorder display interface.




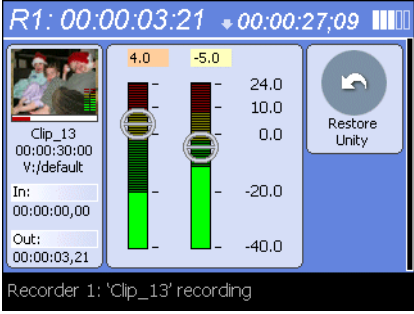

Control	Description and User Operation
<b>Clip Properties Control</b>	
<b>Monitor</b>	
	A clip thumbnail is displayed for the current clip to visually identify the clip. The thumbnail is generated from the 16 <sup>th</sup> frame of the clip.
	An “empty” monitor is used when no clip is loaded. Once recording begins, a thumbnail is shown using the 16 <sup>th</sup> frame of video. During a loop record, a new thumbnail is generated every 3 minute once the loop record length is reached.
	A gray image with the text “no video” is shown when the Recorder is not receiving a video signal.
	An empty monitor with a black X is used if a thumbnail cannot be created. There may be a problem with recording the input video.
	When the recorder is in IEEE 1394 record mode, the 1394 symbol is displayed on the when playback stops.
<b>Audio meters</b>	
	Small audio meter bars are shown in the lower right corner of the thumbnail. Due to their size, they are more signal indicators than exact level indicators. If the audio source is compressed data (AC3) then the audio meters are replaced with the Dolby symbol.
<b>Progress bar</b>	
	In crash or loop records, the progress bar is used to show progress without any specific units. A pink to red gradient used to animate progress. Since a fixed length record has a definite end, the progress bar represents the duration of the record. The bar color in a fixed length record is red.

Control	Description and User Operation
<b>Tool Buttons</b>	
<b>Loop Record</b>  	Toggles the loop record mode on and off. When turning on the loop record mode, the “buffer length” timecode entry control appears allowing you to enter a loop length.
<b>Fixed Length</b>  	Toggles the fixed length record mode on and off. When turning on the fixed length mode, it opens a “fixed length” timecode entry control.
<b>Eject</b> 	Ejects the current clip.
<b>New Clip...</b> 	Ejects the current clip (if any) and creates a new clip using the current seed name.
<b>IEEE 1394A</b>  	Toggles the 1394 record mode on and off.
<b>Audio...</b> 	Shows the audiometer display that contains the audio record level controls and the input meters. Changes to the audio level are automatically saved for the channel.

## Before you record: Recorder settings checklist

Before recording, check the following recorder channel settings.

Record Channel Setting	Procedure
<b>❶ Verify video and audio input selection</b> In the monitor pane, check the thumbnail and its audio level indicators to verify the correct record channel inputs are selected. If there is a problem, correct the settings.	<a href="#">See “Modifying recorder channel (R1) settings” on page 39.</a>
<b>❷ Verify video compression data rate</b> You can manage storage capacity and video quality by adjusting the record channel compression data rate. Generally set as high as possible to obtain the storage capacity needed.	<a href="#">See “Modifying recorder channel (R1) settings” on page 39.</a>
<b>❸ Verify digital audio compression setting</b> If the digital audio source uses AC3 encoding, you must select AC3 mode, otherwise, select PCM encoding.	<a href="#">See “Modifying recorder channel (R1) settings” on page 39.</a>
<b>❹ Verify the timecode source</b> Make sure to select a valid timecode source. You can use the internal timecode generator or LTC.	<a href="#">See “Modifying recorder channel (R1) settings” on page 39.</a>
<b>❺ Verify widescreen mode setting</b> If the video source is in widescreen format, you must select widescreen mode for the recorder. This attribute is saved with the clip and is used to control video scaling when the clip is played. <a href="#">See “Video scaling considerations” on page 37.</a>	<ol style="list-style-type: none"> <li>1. Press <b>MENU</b> , then choose <b>Widescreen</b> to toggle the setting.</li> <li>2. Press <b>R1</b> to return to the Recorder display.</li> </ol> <p><b>NOTE:</b> The clip aspect ratio cannot be changed once the clip is recorded. If you want to change the clip’s aspect ration attribute you must re-record the clip.</p>

Record Channel Setting	Procedure
<div><div>6</div><div><b>Adjust audio level (if needed)</b> You can use the audio leveling feature to adjust the analog or digital audio input levels, excluding dolby encoded digital audio.</div></div>	<div><div>1. In the Recorder display, touch the <b>Audio</b>  button.</div><div></div><div><div>2. Use the touch screen or control knob to adjust graphical faders. Only the selected faders are adjusted. Pushing on the knob cycles selection between both, left, or right channels. - or - Select <b>Restore Unity</b>  to return the audio record level to the incoming audio input level.</div><div><i><b>NOTE:</b> Increasing audio level reduces available dynamic range, and may cause audio clipping depending on audio content.</i></div><div>3. Press the <b>ESC/SHIFT</b> button to return to the Recorder display.</div></div></div>
<div><div>7</div><div><b>Verify video compression settings</b> Choosing a video compression setting is a trade-off between image quality and storage capacity. Higher video quality produces larger files which take up more storage space and take longer to transfer to external devices.</div></div>	<div>See <a href="#">“Modifying recorder channel (R1) settings” on page 39.</a></div>

## Features in the Recorder context menu

The following table describes the tasks provided by the Recorder display context menu.

To do this:	Press the MENU button, then select...
View the current clip properties.	<b>Properties</b>
Rename the clip loaded in Recorder.	<b>Rename</b>  This opens the text entry control which allows you to rename the current clip. Renaming the clip creates a new seed name. For example, if you rename 'Clip_1' to 'Promo', subsequent clips will be named 'Promo-1', 'Promo-2', and so on.
Locate and select the clip in the Clips display.	<b>Locate</b>
Set or clear the widescreen attribute.	<b>Widescreen</b>  Set this to match the active picture aspect ratio of the video source being recorded. For example, if your signal source active picture area is 16:9, select <b>Widescreen</b> , if 4:3, deselect <b>Widescreen</b> .
Select a remote control protocol	<b>Remote Control...</b>  Remote control that lets you select the BVW or AMP control protocols.
Open the Tools menu.	<b>Tools</b>











## To record a clip

You can record clips using the rear panel video, audio, and timecode input signals. Be sure to refer to [“Before you record: Recorder settings checklist” on page 62](#) if you have trouble recording.

If E-to-E mode is selected, the play channel video output BNCs can be used to monitor the video input signals.

To record:

1. Press  on the front panel to view recorder display.
2. Use one of the following record modes:



To:	Press:	Then do this:
Name a clip, then start recording		Name the clip, then press  .
Specify the clip length before starting record		Enter clip length using on-screen or external keyboard, then press  <i>NOTE: Record stops when clip length is reached.</i>
Use Loop record mode		Enter loop length, then press  (See <a href="#">“About loop record mode” on page 58.</a> )
Start recording immediately (crash record), and then rename the clip later.	N/A	Press  .

## Using IEEE 1394 Record mode

The IEEE 1394 (FireWire) ports can be used for importing and recording media from a digital recording device that uses DV or MPEG2 format. After selecting the IEEE 1394 input for the Record channel, you can use the iDDR transport controls to control the IEEE 1394 device remotely through the 1394 connection.

**NOTE:** The rear panel port 2 (top) and the front panel 1394 port are shared. If a device is already connected to port 2 you cannot connect a device to the front panel port, or vice versa.


To use IEEE 1394 Record mode:

1. Connect and power-on the IEEE 1394 device.
2. Press  on the iDDR front panel to view recorder display.
3. Press IEEE 1394 . The record channel input switches to the 1394 input.








The status bar shows “Connecting to device”, then “Connected”. Initially, both the monitor pane and the thumbnail in the Recorder display shows a IEEE 1394 symbol.

Timecode from the device is also displayed in the Recorder pane. If `xx:xx:xx:xx` is displayed, the timecode from the device is not valid.

Use the following step to cue the IEEE 1394 device.

4. You can control the IEEE 1394 device remotely (play, rewind, fast-forward and stop) in one of the following ways:
  - Use the iDDR front panel controls (transport control buttons, Shuttle/Jog Knob).
  - Use the record channel on-screen transport controls in AppCenter.
  - Use iDDR keyboard shortcuts (see [Appendix A, Keyboard Shortcuts on page 281](#)).
  - Press **Menu** , then choose **Seek**. Enter enter a specific timecode for the IEEE 1394 device to seek.

5. After positioning the cue point on the IEEE 1394 device, use one of the following methods to start recording:

To	Press	Then do this
Name a clip, then start recording		Name the clip, then press  .
Specify the clip length before starting record		Enter clip length using on-screen or external keyboard, then press  . <i>NOTE: Record stops when clip length is reached.</i>
Use Loop record mode		Enter loop length, then press  . (See “About loop record mode” on page 58.)
Start recording immediately (crash record), and then rename the clip later	N/A	Press  .

6. Record continues until **Stop** is pressed.




Additional information about IEEE 1394 devices:

- When you start the recording, the iDDR pre-rolls the 1394 device several seconds, then starts play back prior to capturing media. This ensures the video frame cued in the channel monitor is recorded.
- There is no audio monitoring facility on the Turbo iDDR for 1394 devices. To monitor audio, use the audio monitoring features on the DV device.
- The timecode from the 1394 device is not recorded. Rather, the Turbo iDDR starts striping timecode for the clip starting at zero.
- You can play the clip while it is still recording. See “[Previewing a clip that is recording](#)” on page 67.
- Depending on the device’s native format, media captured via IEEE 1394 may require transcoding. If transcoding is required, media may not be captured in real-time.


## Previewing a clip that is recording

Preview loads the currently recording clip into a play channel. The play channel becomes the selected channel, and the clip is cued and ready for play.

To preview a clip:

1. Start the record process.
2. Press  or  on the iDDR front panel.
3. Press **Menu** , then use the control knob choose **Now Recording**.



The current clip is loaded and cued in the play channel and is ready to play.

4. Press  to play the clip.

## Selecting widescreen mode

You must select the widescreen attribute when recording video with widescreen aspect ratio— 16:9. The attribute is saved as part of the MPEG video media file. The attribute is used by the play channel to handle aspect ratio conversion. For example, disable aspect ratio conversion if the clip is played on a channel set for widescreen display. This may occur when playing a list of clips with different aspect ratios. For more information, refer to [“About video scaling settings” on page 36](#).

To change the Widescreen attribute:

1. Press **MENU** , then use the control knob to choose **Widescreen**.
2. Press **R1**  to return to the Recorder display.

**NOTE:** The clip aspect ratio cannot be changed once the clip is recorded. If you want to change the clip's aspect ration attribute you must re-record the clip.


## Changing the current bin

On the iDDR, a fixed amount of disk space is reserved for storing media files— the **V:/** partition. Within the **V:/** disk partition, your clips and playlists are stored in *bins* which function like directories in a file system. You can organize your media by creating and removing bins.

When recording starts, the new clip is stored in the *current bin*. You can change the current bin to determine where you want the clip stored. The current bin name is displayed under the clip name in the Recorder display, for example, **V:/default**.

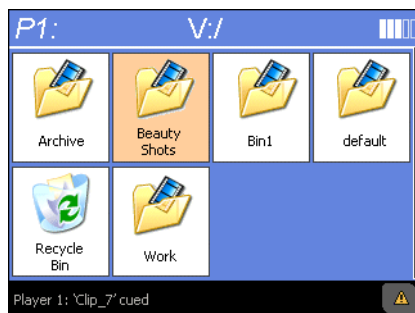
**NOTE:** Changing the current bin affects the recorder and the player modes.

To change the current bin for the record channel:

1. Press **CLIPS** , then use the control knob to choose **Organize Bins**.


You can also press **CLIPS**  twice to view the Bins.

The Bin display appears.



2. Do one of the following:

- Use the control knob to highlight and select a bin to make it the current bin
- or -
- Touch a bin button to select it, then touch it again to view the bin. The selected bin is now the current bin.

3. Press **R1**  to return to the Recorder display.


#### Related topics:

- [“Creating a new bin” on page 105](#)
- [“Renaming a bin” on page 106](#)

## Renaming a clip


You can rename a clip during or after recording.

To rename a clip:

1. Press **MENU** , then use the control knob to choose **Rename**.
2. Use the onscreen keyboard to rename the clip, then select **Done**.

## Viewing clip properties

To view the properties of a clip loaded in Recorder mode:

1. Press **MENU** , then use the control knob to choose **Properties**.


The properties display appears.



2. Use the control knob to browse or close the dialog box.

## Locating a clip

You can locate the currently loaded clip by displaying the contents of the current bin in the clips pane, as follows:

- Press **MENU** , then scroll and select **Locate**.

The Clips display opens showing the contents of the bin where the clip is located.

## Playing and editing clips

The information in this section describes how to play and edit clips recorded on the iDDR. You can play clips in a variety of ways including off-speed play (VAR) and triggered by GPI. In addition to editing existing clips the in and out points in existing clips, you can create new clips using the iDDR subclip feature.

Information in this section includes:

- [“About playing clips” on page 71](#)
- [“Guide to using front panel Player display” on page 72](#)
- [“Features in the player context menu” on page 74](#)
- [“Loading media for playout” on page 75](#)
- [“Playing a clip” on page 76](#)
- [“Selecting loop play” on page 76](#)
- [“Selecting E-to-E mode” on page 76](#)
- [“Jumping to a specific timecode” on page 77](#)
- [“Editing a clip” on page 77](#)
- [“Creating Subclips” on page 80](#)
- [“Locating the clip loaded in player” on page 82](#)
- [“Viewing clip properties” on page 82](#)

## About playing clips

The front panel player display is used to play clips, programs, and playlists stored on the iDDR. The player display is also used to trim clips by modifying the clip mark-in or mark-out points. There is a player display for each play channel **P1** and **P2**.

The player display has two additional views— [Edit List](#) and [Subclip](#). Edit List is used to create playlists by loading multiple clips or programs to create sequence of events. Subclip view is used to create new clips from the source clip currently loaded in the player display. Later, you can delete the source clip to free media storage space. The media referenced by subclips remains.

### Working with clips that are still recording

The following restrictions apply when working with a clip in Player mode that is currently recording:


- You cannot rename the clip.
- The clip mark-in/mark-out points cannot be modified.
- Subclips created from a clip currently being recorded can only have a Mark Out equal to the last frame that has been recorded when the subclip is created. You cannot create a clip longer than has been recorded under the assumption that the unrecorded frames will “fill it in”.

Otherwise, clips that are currently being recorded behave normally. As a reminder, “Read-Only” is displayed in the StatusBar when the clip loaded or playing is still being recorded.

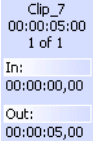






## Guide to using front panel Player display

The front panel player display is used to play a clip or playlists, modify clip names, adjust clip mark in and mark out points, create sub-clips, and stripe timecode. Press either the **P1** or **P2** buttons to show the player display. The following describes the player display controls.



Control	Description and User Operation
Channel Information	
P1: 00:26:00:05	<b>Current Timecode</b> - Displays recorded timecode. Text color is white during playback, and dimmed at other times. The value of xx:xx:xx:xx is displayed when the recorded timecode is not present or invalid.
*00:00:04:25	<b>Countdown Timecode</b> - Displays the time remaining in the clip or list.
Monitor (Thumbnail)	
	<b>Thumbnail</b> - Used to visually identify the clip. Generated using the 16th frame of the clip. An empty thumbnail with a black X is used if the clip does not have a thumbnail. When playing a list, the thumbnail changes each time a new event is played. <b>Progress bar</b> - The progress bar represents the length of the playback. <b>Audio presence indicator</b> - Indicate the presence of recorded audio.



Control	Description and User Operation
<b>Clip Properties</b>	
	<p><b>Clip Name</b> - Displays the clip's name. When no clip is loaded, this control shows, <i>&lt;no clip&gt;</i>.</p> <p><b>Clip Length</b> - Shows the clip's length in hours, minutes, seconds, and frames. If no clip is loaded, the length is blank. If the clip is being recorded, this value will change about every second.</p> <p><b>Event Number</b> - When a list is loaded into the player, the event number indicates which event is currently playing in the list, for example 3 of 20. When a single clip is loaded, the event number is always 1 of 1. If no clip is loaded, the event number is blank.</p> <p><b>In: and Out:</b> - Shows the timecode values for the first and last frame of the clip. You can modify clip in and out points. See <a href="#">“Moving clip mark-in/mark-out points” on page 77</a>. After modifying In/Out points, a &lt;&lt;&lt; or &gt;&gt;&gt; symbol is displayed to indicate that marks can be cleared to reveal more media or unused media can be erased to free disk space. See <a href="#">“Erasing a clip's unused media” on page 107</a>.</p>
<b>Toolbar Buttons</b>	
	Toggles the loop play mode on and off.
	Toggles the E-to-E mode on and off. See <a href="#">“Selecting E-to-E mode” on page 76</a> .
	Ejects the current clip.
	Shows the Subclip display for creating new clips from the current clip loaded.
	Shows the Edit List display for viewing assets loaded as a sequence of events in a playlist.
	Shows the audio meter panel for adjusting audio play level. Changes to the audio level can be saved with the current clip.

## Features in the player context menu




The following table describes the tasks provided by the Player display context menu:

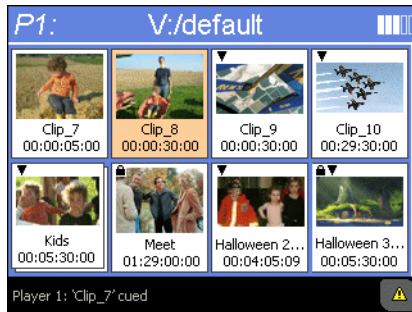
Menu Item	Description
<b>Properties</b>	Opens the Clip Property dialog, or if a Playlist was loaded or is being edited, it opens the List Property dialog.
<b>Rename</b>	Opens the text entry control which allows you to rename the current clip.
<b>Locate</b>	Opens the Clip display and selects the current asset. If editing an unnamed list, then an error is shown in the statusbar.
<b>Goto...</b>	Opens the timecode keypad and cues the timeline position to the given timecode.
<b>Now Recording</b>	Loads the clip the currently loaded in R1 into the current player.
<b>Change Thumbnail</b>	Changes the asset's thumbnail to the current frame.
<b>Stripe Timecode</b>	Opens the Stripe Timecode control that allows you to replace clip time code using stripe zero-based or time-of-day based timecode. This item is disabled for lists.
<b>[ ] Prompts</b>	Turns on/off prompts for trim and sub-clip operations
<b>Remote Control...</b>	Opens the Remote control that lets you select the BVW or AMP control protocols
<b>Tools</b>	Opens the tools dialog.

## Loading media for playout

You can load clips or programs in the play display for playout.

### To load media using the Clips display:




1. Press  or  to select a play channel.
2. Press **CLIPS**  to open the Clips display.



3. Rotate the control knob to highlight an asset, then push on the knob to load in the player display.

The asset thumbnail and properties appear in the clip monitor.

### To load a clip that is still recording:

1. Start the recording as described in [“To record a clip” on page 65](#).
2. Press a play channel button —  or .
3. Press **MENU** , then scroll and select **Now Recording** using the control knob.

The clip thumbnail and properties appear in the clip monitor. Since the clip is still recording, the mark-out point is updated periodically.

**NOTE:** If play channel E-to-E mode is enabled, play channel standard definition outputs are switched to the record channel input until playout is started. Refer to [“Selecting E-to-E mode” on page 76](#).

### Related topics:

- [“Playing a clip” on page 76](#)
- [“Editing a clip” on page 77](#)

## Playing a clip

Once an asset is loaded in the player display, you can play it in regular or off-speed play. You can also search for a specific frame of video using the transport controls. Use the links in the following table to find information on playing clips.

If you are using...	Refer to...
Front Panel controls	<a href="#">“Using the front panel controls” on page 51</a>
Keyboard shortcuts	<a href="#">Appendix A, Keyboard Shortcuts on page 281</a>
GPI input triggers	<a href="#">“Setting GPI input triggers” on page 43</a>

## Selecting loop play

Loop play allows the clip to play in a continuous loop until **Stop** is pressed.

To enable loop play:

- To enable loop play, touch **Loop (Off)** to turn it on.

## Selecting E-to-E mode

In E-to-E mode, the record channel inputs are switched to the play channel audio and video outputs (standard definition) when the play channel is in stop mode or when no clip is loaded. This allows you to monitor the record channel inputs while recording.

To enable E-to-E mode:

- In the player display, touch **E-to-E** to turn it on.

The following table describes play channel operation depending on the E-to-E selection.

E-to-E Setting	Play channel mode	Play channel output
E-to-E Disabled	Play, FF, Rewind	Show clip
	Stop	Show clip
	Eject	Show black
E-to-E Enabled	Play, FF, Rewind	Show clip
	Stop	Show input <sup>a</sup> .
	Eject	Show input <sup>a</sup> .

<sup>a</sup>. Output is black if no video input is connected to **R1**. DVI-I output does not support E-to-E.

### E-to-E considerations


When E-to-E mode is enabled, you can connect an external reference signal which is synchronous to the video input. This will eliminate artifacts on the play channel output (periodic vertical shift) due to routing an asynchronous signal through the iDDR. However, this is not required for recording, the iDDR can record asynchronous signals.

**NOTE:** *E-to-E is provided for monitoring the record channel, and is not intended as a program switch.*

## Jumping to a specific timecode

The Goto dialog box allows the player mode to jump to the specific clip timecode that you enter. You can enter an absolute timecode value based on recorded timecode, or a relative timecode value, that is, cue the video to a point +/- some value relative the current frame. If you don't know the timecode value of the frame you want, you can click and drag the scrub bar to shuttle to the desired frame.

To jump to a specific timecode:

1. Press **MENU** , then use the control knob to choose **Goto**.
2. Enter a timecode value using the onscreen keypad and control knob.
3. Touch **Done** in the onscreen keypad.

### Related topics:

- [“Loading media for playout” on page 75](#)
- [“Playing a clip” on page 76](#)

## Editing a clip

Topics in this section are as follows:

- [“Moving clip mark-in/mark-out points” on page 77](#)
- [“Clearing clip marks” on page 78](#)
- [“Adjusting clip audio level” on page 78](#)
- [“Changing the clip thumbnail image” on page 79](#)
- [“Striping timecode \(replacing the timecode track\)” on page 79](#)
- [“Renaming a clip in player mode” on page 80](#)

## Moving clip mark-in/mark-out points



Every clip has a mark-in point and a mark-out point which refer to the first and last frames displayed when the clip is played. When first recorded, clip marks are set to the beginning and end of available media. You can edit the clip marks in order to reference only the desired media. When clip marks are moved, the unused media *is not deleted*. Clearing the marks resets the them to the first and last frames of the recorded clip.

The following restrictions apply when editing clip marks:

- Mark-in must precede the mark-out
- Marks cannot be set outside the recorded media
- Marks cannot be changed on a clip that is still being recorded.

**NOTE:** If more media exists after the current mark, a <<< or >>> symbol is displayed next to the In/Out timecode. To permanently remove media outside the marks, refer to [“Erasing a clip's unused media” on page 107](#).





#### To move clip marks

1. Load the clip in the player.
2. Use the front transport controls to locate the desired frame.
3. Perform one of the following:
  - Press the **MARK-IN**  button to set mark-in point.
  - Press the **MARK-OUT**  button to set mark-out point.

#### Clearing clip marks

If media exists outside the clip marks, you can get access to that media by clearing the clip marks. If more media exists after the clip marks, a <<< or >>> symbol is displayed next to the In/Out timecode.


To clear clip mark-in or mark-out:

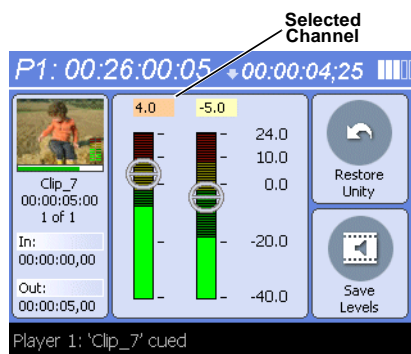
1. Load the clip in player.
2. Perform one of the following:
  - Press **ESC/SHIFT** then **MARK-IN**  +  to clear the mark-in point.
  - Press **ESC/SHIFT** then **MARK-OUT**  +  to clear the mark-out point.

#### Adjusting clip audio level

The audio meter display provides audio level adjustment for clips loaded in the player display. If the clip loaded was recording using Dolby digital audio (AC3), the audio gain adjustments are disabled.

To adjust audio level:


1. In the Player display, touch the **Audio**  button.




2. Do one of the following:

- Use the touch screen or control knob to adjust graphical faders.  
Only the selected faders are adjusted. Pushing on the knob cycles selection between both, left, or right channels.

- or -

- Touch **Restore Unity**  to return the audio to the recorded level.

3. Touch **Save Levels**  to save the audio level changes for the clip.


Saved audio levels are used every time the clip is loaded and played. Unsaved changes are lost when the clip is ejected.

4. Press the **ESC/SHIFT** button to return to the player display.

### Changing the clip thumbnail image

The clip thumbnail is displayed in AppCenter for visual identification of the clip. By default, the 16th frame is used to generate the thumbnail image.


To change the clip thumbnail:

1. While monitoring the play channel output, use the transport controls to position the clip to the desired video frame.
2. Press **Menu** , then use the control knob to choose **Change Thumbnail**.

**NOTE:** If clip marks are edited so that the video frame used to generate the thumbnail is outside the new clip marks, the thumbnail is reset to a position near the mark-in of the modified clip.

### Stripping timecode (replacing the timecode track)

The stripe timecode dialog allows you to overwrite the existing timecode track for the loaded clip. You can replace the recorded timecode with time of day, or a specific start timecode value.


1. Load the clip into a play channel.
2. Press **MENU** , then the control knob to choose **Stripe Timecode**.
3. Specify the replacement timecode:

**Time of Day** – The new timecode track will start with the current time of day and will contain continuous values ranging from the current time of day plus the length of the clip.

**Fixed Time** – After choosing this option, select the **timecode entry control**, and enter a start timecode value. The new timecode track will contain continuous values ranging from the specified starting value to the starting value plus the length of the clip.

**Drop frame** – The drop frame option is available when system timing is set to 525 line standard. Drop frame allows the timecode track to indicate the actual running time of the clip.

### Renaming a clip in player mode

1. Press **Menu** , then use the control knob to choose **Rename**.
2. Enter a new name using the onscreen keypad and control knob or an external keyboard.
3. Touch **Done** in the onscreen keyboard, or press **Enter** on the external keyboard.


### Creating Subclips

A subclip is a clip created by referencing a portion of media from another clip. For example, if you recorded a two hour clip, you could create several short subclips to use as previews or advertisements. Each subclip refers to a small portion of the original clip and is listed along with all other clips in the clips pane. When working with subclips, the original clip is sometimes called the *source clip*. After creating subclips, you can delete the source clip.

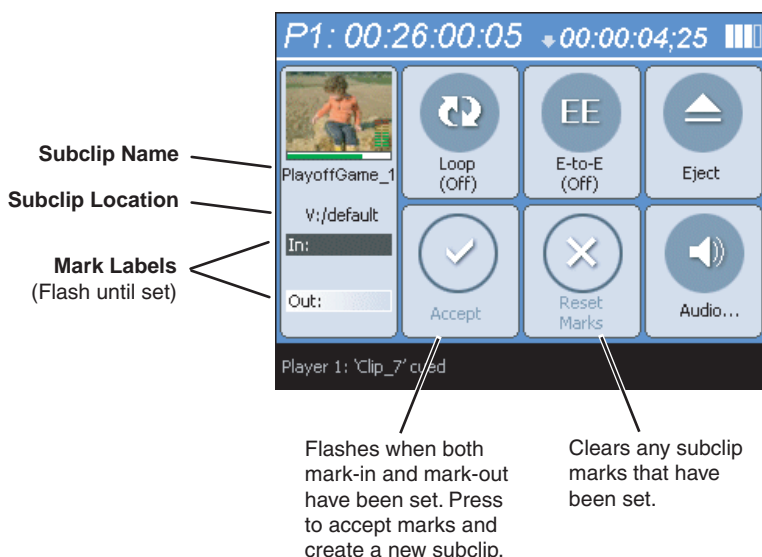
Subclips created from a clip that is still recording can only have a mark-out equal to the last frame that has been recorded when the subclip is created. You cannot create a subclip longer than what has been recorded with the assumption the media will “fill in”. You can create subclips from a clip being recorded in loop record mode. In loop record mode, media referenced by the subclips is retained while unreferenced media is discarded.

You can load subclips in the Control view and edit the mark-in/mark-out points the same as a clip, provided the unreferenced source media has not been erased. If the source media has been erased, the subclip retains 1 second of media on each side of the mark-in and mark-out points. See [“Moving clip mark-in/mark-out points” on page 77](#).





### To create subclips

1. Load a clip in the player.
2. Press **Subclip**  in the player display.





The Subclip display appears with a new subclip loaded and the front panel **Mark-In** and **Mark-Out** buttons are flashing indicating that no mark-in or mark-out point are defined. The default subclip name follows the form *<source clip name>-<number>*, for example, if the source clip name is *PlayoffGame*, the subclip name is *PlayoffGame-1*.

3. To rename the subclip, press **MENU** , then choose **Rename**. Use the onscreen keyboard or an external keyboard to rename the subclip.  
Renaming the subclip creates a new seed name. For example, if you rename the subclip *PlayoffGame-1* to *Highlight*, subsequent subclips created are named *Highlight-1*, *Highlight-2*, and so on.
4. Use the front panel transport controls to locate the desired frame, then press the **MARK-IN**  button.
5. Use the front panel transport controls to locate the desired frame, then press the **MARK-OUT**  button.
6. Press **Accept** . The subclip is saved and ejected, then a new subclip name is created.

**NOTE:** If the **Accept** button does not flash, but instead the clip is saved and a new subclip is loaded, the iDDR is in Auto-subclip mode. See [“About Auto Subclip mode” on page 82](#).

**NOTE:** Clicking the **Eject** button prior to pressing the **Accept** button closes Subclip mode without creating a new clip. Both of these buttons are used to exit Subclip mode.

### About Auto Subclip mode

The Auto-Subclip feature changes the way that the subclip mode behaves. Auto Subclip mode eliminates the “Accept” step in the subclip procedure. In Auto-Subclip mode, you simply set mark-in, then set mark-out. On setting mark-out, the subclip is ***automatically generated and ejected***, and a new subclip name is loaded in the Subclip display.

Auto Subclip mode is useful when you want to create subclips while a source clip is playing. You simply load a clip, press play, then create subclips by selecting In, Out, In, Out, etc.

To enable Auto Subclip mode:

- Press **MENU** , then select **Prompts**.

### Locating the clip loaded in player

You can determine where the currently loaded clip is stored in the media file system using the locate command.


To locate the currently loaded clip:

- To locate the loaded clip, press **MENU** , then select **Locate**.

The Clips display opens and lists the contents of the bin where the clip is located.

### Viewing clip properties

To view the properties of a clip loaded in Player:

- Press **MENU** , then select **Properties**.

The Clips display opens and lists the contents of the bin where the clip is located.

**NOTE:** To learn more about the Clip Properties dialog box, “[Viewing clip properties](#)” on page 69.

## Playing playlists

Topics in this section include:

- [“Introducing Playlist mode” on page 84](#)
- [“Before using Playlist mode” on page 85](#)
- [“Guide to using the Edit List display” on page 88](#)
- [“Creating a simple playlist” on page 90](#)
- [“Loading a playlist” on page 91](#)
- [“Playing a playlist” on page 91](#)
- [“Playing a playlist in loop mode” on page 92](#)
- [“Managing playlists” on page 92](#)
- [“Editing a playlist” on page 94](#)
- [“Adding GPI output triggers to playlists” on page 96](#)
- [“Pausing at the end of an event” on page 97](#)

## Introducing Playlist mode

In addition to playing single a single clip, the iDDR play channels can also play lists that contain clips and programs stored on the iDDR. Playlist mode is supported in both front panel and workstation operating modes, however, workstation operation extends the playlist features available.

The following table summarizes and compares the basic features supported in playlist mode for both front panel and workstation operation.

Basic Feature	Description	Availability	
		Front Panel Mode	Workstation Mode
<b>Editing playlists</b>	Events in a playlist can be rearranged or removed, and new events added between existing ones.	✓	✓
<b>Editing events in the list</b>	Events can be renamed and trimmed. Trimming an event moves the mark-in and mark-out points. This only affects the event, not the source clip.		✓
<b>Event transitions</b>	Transitions between all events in a list is a cut, i.e. the last frame of an event is followed by the first frame of the next event.	✓	✓
<b>Loop on a section<sup>a</sup></b>	Sections are provided within the list to provide flexibility during playout. A section can be set up to loop indefinitely. The section can be taken out of the loop by manual intervention.		✓
<b>Loop on a list</b>	Lists can be set up to loop indefinitely. The list can be taken out of the loop by manual intervention— stop or goto.	✓	✓
<b>Pause at the end of events</b>	Events can pause playout at their end. At event pauses, you can choose to show black, show E-to-E, freeze on last frame, or freeze on next event.	✓	✓
<b>Pause at the end of sections<sup>a</sup></b>	Sections can pause playout at their end. At section pauses, you can choose to show black, show E-to-E, freeze on last frame, or freeze on next event.		✓
<b>Saving a playlist as a program</b>	Playlists can be saved as a <a href="#">program</a> . This saves the media and transitions, but nothing that breaks the flow of playout, such as pauses. In both front panel and workstation operation, you can insert a program into a playlist, or play a program in the standard player mode.		✓
<b>GPI output triggers</b>	The iDDR provides 6 GPI output signals through a rear panel connector for controlling external equipment. You can configure events in a playlist to trigger GPI outputs. A GPI trigger does not disrupt playout of the play events. GPI triggers can be set to occur at the beginning or end of an event or section, or at these points with some offset.	✓	✓

Basic Feature	Description	Availability	
		Front Panel Mode	Workstation Mode
<b>GPI Input triggers</b>	You can assign any of the 6 GPI inputs to control one or more play channels and the action you want the iDDR channel(s) to take— play, VAR play, cue next event, or cue next section, etc. AppCenter Workstation includes more extensive GPI output trigger features. See <a href="#">“Adding GPI output triggers to playlists”</a> on page 190.	✓	✓

<sup>a</sup>. Front panel playlist mode supports this feature for playlists created in workstation mode.

## Before using Playlist mode

Read the following sections before using Playlist mode.

- [“Terms used in Playlist mode”](#) on page 85
- [“Symbols used in Playlist mode”](#) on page 86
- [“Working with programs”](#) on page 86
- [“Using mixed aspect ratios in a playlist”](#) on page 87
- [“Inserting a clip that is still recording”](#) on page 87
- [“Inserting a playlist in a playlist \(workarounds\)”](#) on page 87







## Terms used in Playlist mode

The following terms are used in the Playlist mode.

Term	Definition
Playlist	A list is a sequence of events.
Event	Events are the components that make up a list. Events are created by adding a clip or program to sections in a list.
Section	Playlists created in Workstation operating mode contain at least one section. All events in a playlist are contained in sections. Sections have properties that include repeat and pause. A playlist can have up to 100 sections. Each section can contain up to 1000 events.  <i><b>NOTE:</b> Playlists created in Front Panel mode do not have sections; however, when playlists created in Workstation mode are played in front panel mode, section properties are used for payout just as they would in workstation mode.</i>
Source Clip	The clip inserted in a list to create a play event.
Program	Playlists can be saved as a program in iDDR Workstation mode. Programs created from a playlist include all the media and transitions in the playlist, but nothing that breaks the flow of payout, such as a pause at the end of an event. Programs are also created from the loop record mode.

### Symbols used in Playlist mode

The following table describes the symbols used in the Playlist List view to describe the properties of items in the list— play events, sections, and the list itself.


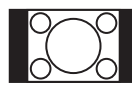


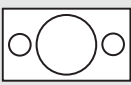



Symbol	Description
	<b>Locked</b> The item is locked and cannot be edited.
	<b>Pause</b> At the end of playout, this item will cause playout to pause.
	<b>Loop</b> At the end of playout, the item will repeat.
	<b>GPI Output Trigger</b> This event or section triggers one or more GPI outputs.
	<b>Up arrow</b> Event resolution does not match the play channel video output type. The event will be up-converted on play.
	<b>Down arrow</b> Event resolution does not match the play channel video output type. Event will be down-converted on play.

### Working with programs

A **program** is a clip generated from a playlist using the **Save As Program** feature in the Playlist mode. A program includes all the media in the playlist, but does not include any event that breaks the flow of playout such as a pauses between events. You can insert programs into other playlists as an event, or load and play them using the standard Player mode. You can also send a program to a file or a video network stream.

## Using mixed aspect ratios in a playlist

The iDDR can play clips with different aspect ratios in a single playlist. How the media is displayed is determined by the play channel widescreen setting and clip aspect ratio. The play channel determines the clip aspect ratio by examining the clip aspect ratio attribute set when the clip was recorded. The following table describes how the iDDR displays mixed aspect ratios. (See also [“Video scaling considerations” on page 37](#)).

Event Aspect Ratio	Play Channel Widescreen Setting	
	Standard (4:3)	Widescreen (16:9)
Standard (4:3) 	No conversion	Bars (Pillarbox)  Bars & Crop (Half-Pillarbox)  Crop (zoom) 
Widescreen (16:9) 	Bars (Letterbox)  Bars & Crop (Half-letterbox)  Crop 	No conversion

## Using mixed video resolutions in a single playlist

Playlists can contain events with different video resolutions. When the list is played, the media is up-converted or down-converted as needed to match the play channel video output type selected. See also [“Video scaling considerations” on page 37](#).

**NOTE:** The transition between events with different resolutions takes approximately 1 second. During this time, play channel output is switched to black.

## Inserting a clip that is still recording

Clips that are currently recording behave as other clips do in a list except for the following restriction:

- The event-out timecode is set to the last recorded frame at the time the clip is inserted in List view, or created in Event view. You can move the event-out timecode as needed while the clip is still recording or after record is stopped.

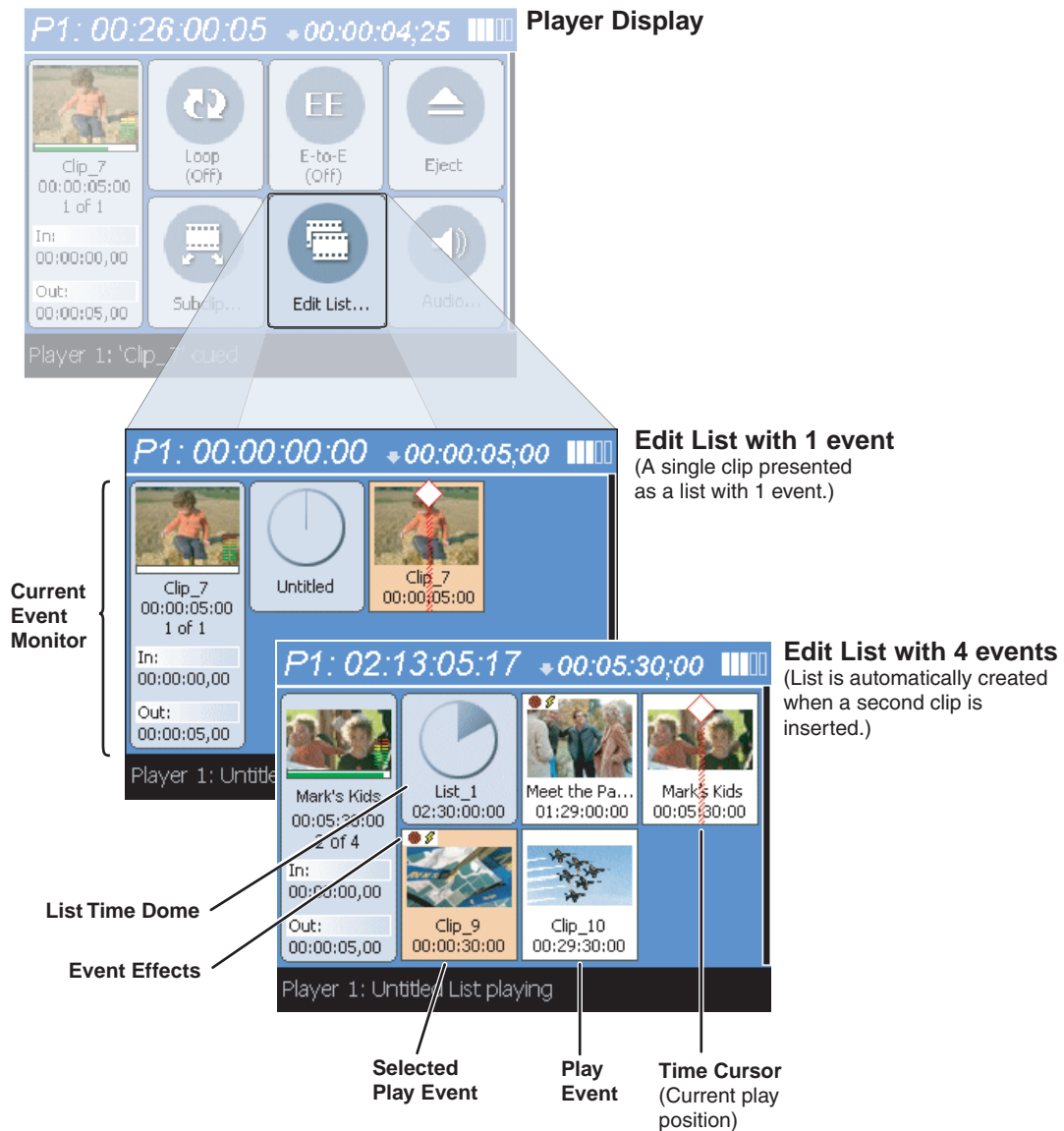
## Inserting a playlist in a playlist (workarounds)

While iDDR does not support a true “nested” playlist, you can retain some of the functionality of inserting a playlist in a playlist in the following ways. These are available in workstation operating mode only.


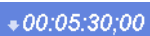
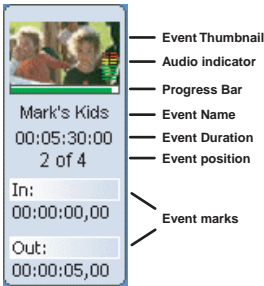




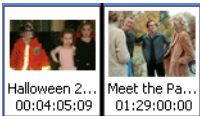
- Save the list as a program, then insert it into another playlist as an event.
- Use multi-item select and copy/paste.
- Copy/paste events or sections within the same list or from other lists.
- Copy the list in the clips pane, then load and edit the list.

## Guide to using the Edit List display

To open the Edit List display, use the **Edit List** button in the Player display. The following describes the controls in the Edit List display.





Control	Description and User Operation
<b>Timecode</b> 	Shows the recorded timecode for the event currently playing.
<b>Countdown</b> 	Displays the time to the end of the current event.
<b>List Monitor</b> 	When in the event list display, the progress bar represents the duration of the current event.
<b>List Button</b> 	The list button provides information about a list including play progress and the list name and duration. Play list play progress is displayed using the Time Dome. The Time Dome represents how much of the list has played. An empty Time Dome indicates that the list has not started to play.
<b>Events</b> 	<b>Events</b> - Events are the components that make up a list. Events are created by inserting clips into the list.
<b>Selected Event</b> 	<b>Selected Events</b> - Events can be selected as well as the list button itself. The selection can be changed using the knob control or touch screen.
<b>Lifted Event</b> 	<b>Lifted Events</b> - Selected items that are <i>lifted</i> using the <b>Lift</b> menu item, are displayed with the upper left corner folded over. Lifted items can be moved using the knob control.  <i><b>NOTE:</b> You can select more than one or more item using the multiple-select feature. In this way, several items can be removed, modified, or moved in the same operation.</i>
<b>Time Cursor</b>	The time cursor indicates the current play position. The time cursor is displayed over the event currently being played.
<b>Drop Cursor</b> 	The drop cursor appears as a dark vertical line between events when a lifted selection is being moved using the knob control. The cursor indicates the location the lifted selection will be dropped when the knob is pushed in.

### Event Effects



You can assign effects to events that are in the list.

**Pause at end of event** - List playout pauses when the end of the event is reached.

**GPI Output trigger** - Triggers the selected GPI at beginning or end of event.

### Video Scaling



**Up-conversion** ▲ - Appears when the event's resolution does not match the play channel video output type. This icon indicates that the event is going to be up-converted. For example a source with a XVGA resolution will be up-converted to play out a video output set for a 1080i.

**Down-conversion** ▼ - Appears when the event's resolution does not match the play channel video output type. This icon indicates that the event is going to be down-converted. For example a source with a 1080i resolution will be down-converted to play out a video output set for a XVGA.

## Creating a simple playlist

A new list contains no events unless a clip is loaded when you enter the Edit List display. As you start inserting events, they will be played in the order you insert them.

1. Press a play channel button — or .

2. Press **Edit List** in the player display.

If a clip was already loaded in the play channel, it appears as a single clip in the list.

3. Press **CLIPS** to open the Clips display.

4. Perform one of the following steps to insert media:

- Double-touch a clip in the Clips display.
- or -
- Rotate the control knob to highlight a clip, then push in the knob.

5. When the playlist is complete, press **ESC** to close the Clips display.

**NOTE:** You can insert new events between existing ones by using the control knob to move the insertion point. The insertion point is immediately after the selected event.

6. Save the playlist using the following steps:

- a. Press **MENU** , then choose **Save List...** using the control knob.
- b. Name the list using the onscreen keypad and control knob, or use an external keyboard.
- c. Touch **Done** in the onscreen keyboard, or press **Enter** on the external keyboard.




### Related topics:

- [“Playing playlists” on page 83](#)

- “Rearranging events in a playlist” on page 94
- “Adding GPI output triggers to playlists” on page 96

## Loading a playlist

To load a playlist:

1. Press a play channel button —  or .
  2. Press **CLIPS**  to open the Clips display.
  3. Perform one of the following steps to load a playlist:
    - Double-touch a playlist displayed in the Clips display.
    - or -
    - Rotate the control knob to select a playlist, then push in the knob to load it.
- Before the playlist is opened, the currently loaded clip or playlist is ejected.

**NOTE:** Playlists created using AppCenter Workstation mode may contain one or more sections. For more information about sections see “[Terms used in Playlist mode](#)” on page 76.

## Playing a playlist

After a playlist is loaded, use the iDDR controls to play the list. These controls include the front panel transport controls, GPI input triggers, and external keyboard shortcuts..



To...	Do this...
Begin playing at the top of the list	Open the list, then press <b>Play</b> .
Begin playing at an event in the list	Select an event in the list, then press <b>Play</b> .
Continue playout after a pause in the list	Select the <b>Play</b> button.
Play the next event	Press the <b>Play</b> and <b>FF</b> buttons. -or- Press the <b>Menu</b> button, then choose <b>Goto</b> , and then <b>Next Event</b> in the Goto pop-up menu.
Play the next section	Press the <b>Play</b> button and hold the <b>FF</b> button down. -or- Press the <b>Menu</b> button, then choose <b>Goto</b> , and then <b>Next Section</b> in the Goto pop-up menu.
Skip playback to any event or section in the list	First, press and hold the <b>Play</b> button, then select the event or section using the touch screen.
Select an event or section to playback	First, select the event or section, then press the <b>Menu</b> button, and choose <b>Selection</b> in the Goto pop-up menu. Then press <b>Play</b> .

To...	Do this...
Avoid delays when jumping to a new event or section	First select the new event or section, then wait until the diamond or standby icon is filled in before jumping to the new event or section.
Use keyboard shortcuts to play the playlist	See “Keyboard Shortcuts” on page 281.
Use GPI input triggers to play the playlist	See “Setting GPI input triggers” on page 43.






## Playing a playlist in loop mode


Choosing the loop mode allows a playlist to play out continuously until stop is selected.

To enable loop mode:

- Press **MENU** , then use the control knob to choose **Loop**, and then press **Play** .

## Managing playlists

To	Do this
Save a copy of a playlist	<ol style="list-style-type: none"> <li>1. Press <b>Menu</b> , then select <b>Save List...</b> using the control knob.</li> <li>2. Name the list using the onscreen keypad and control knob or use an external keyboard.</li> <li>3. Select <b>Done</b> in the onscreen keyboard, or press <b>Enter</b> on the external keyboard.</li> </ol>
Lock a playlist	See “Locking the front panel” on page 50.
View information about a playlist	<ol style="list-style-type: none"> <li>1. Select the playlist button using the control knob.</li> <li>2. Press <b>MENU</b> , then choose <b>Properties</b> using the control knob.</li> </ol>
Rename a playlist	<ol style="list-style-type: none"> <li>1. Select the playlist button using the control knob.</li> <li>2. Press <b>MENU</b> , then choose <b>Rename List</b> using the control knob.</li> </ol>
Locate a playlist in the Clips pane	<ol style="list-style-type: none"> <li>1. Select the playlist button using the control knob.</li> <li>2. Press <b>MENU</b> , then choose <b>Locate</b> using the control knob. The Clips pane opens to the bin where the playlist is located.</li> </ol> <p><i><b>NOTE:</b> Playlist metadata created in Workstation cannot be viewed in front panel mode.</i></p>
Select multiple items in a playlist	Press <b>MENU</b>  , then choose <b>Multiple Selection</b> using the control knob. This allows you to select several events in the playlist rather than have each new selection un-select the previous item.



To	Do this
Select all events in the playlist	Press <b>MENU</b>  , then choose <b>Select All Events</b> using the control knob. All events in the playlist are selected.

## Editing a playlist

- “Adding media to a playlist” on page 94
- “Rearranging events in a playlist” on page 94
- “Removing events from a playlist” on page 95
- “Adjusting event audio levels” on page 95
- “Adding GPI output triggers to playlists” on page 96
- “Pausing at the end of an event” on page 97

## Adding media to a playlist

You can edit a playlist by adding new media.

1. Use the control knob to select an event in the list. The media you add to the playlist is always inserted after the currently selected event.
2. Press **CLIPS**  to open the Clips display, then use one of the following steps to insert media:
  - Double-touch a clip or program image
  - or -
  - Use the control knob to highlight a clip, then push in the control knob to insert.
3. Press **ESC**  to close the Clips display.
4. The change is automatically saved.

## Rearranging events in a playlist

You can rearrange events in a playlist so they play out in a different order.

1. Rotate the control knob to select an event in the playlist.
2. Do one of the following:

Press **MENU** , then choose **Lift**.

- or -


Rotate the control knob to select an event, then push in on the knob to select.



The selected event is displayed showing a folded corner to indicate it can be moved.

3. Rotate the control knob to move the cursor to the desired position, then push in on the knob to move the lifted event to the new location.

### Removing events from a playlist

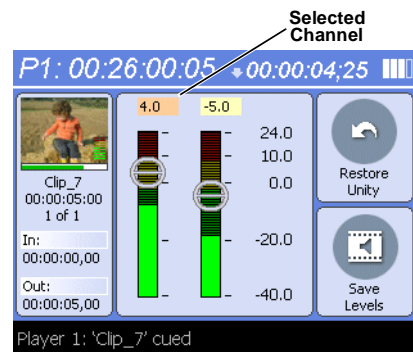
- Rotate the control knob to select an event in the playlist, then press **MENU** , and choose **Remove**.



### Adjusting event audio levels

The audio meter display provides audio level adjustment for the selected in the player display. If the clip loaded was recording using AC-3 digital audio, the audio gain adjustments are disabled.

To adjust audio level:

1. Rotate the control knob to select an event in the playlist.
2. Press **ESC/SHIFT**, then choose **Audio**.




3. Do one of the following:
  - Use the touch screen or control knob to adjust graphical faders.  
Only the selected faders are adjusted. Pushing on the knob cycles selection between both, left, or right channels.  
- or -
  - Touch **Restore Unity**  to return the audio to the recorded level.
4. Touch **Save Levels**  to save the audio level changes for the clip.  
Saved audio levels are used every time the playlist is played. Unsaved changes are lost when the playlist is ejected.
5. Press the **ESC/SHIFT** button to return to the player display.

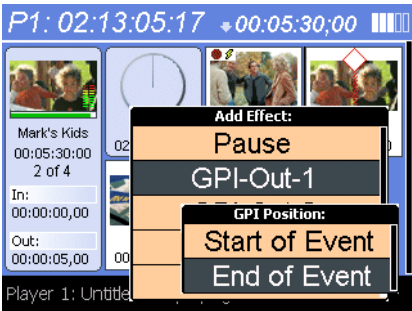
### Adding GPI output triggers to playlists

You can assign GPI output triggers to events in a playlist. The GPI outputs can be used to trigger external equipment when the list plays. Before you can use GPI output triggers in a list, you must assign GPI outputs to the play channel using the Tools menu. See [“Setting GPI output triggers” on page 45](#).

**NOTE:** If you want to play a list that was created on another play channel, you must ensure that GPI triggers for the play channels use the same names, otherwise the GPI triggers will not occur. Using identical GPI naming also allows copying and pasting events between lists.

### Adding GPI output triggers


1. Rotate the control knob to select an event in the playlist, then press **MENU** , and choose **Add Effect**.
2. Use the control knob to highlight a GPI Output in the Add Effect menu, then push in the knob to select.




**NOTE:** If no GPI outputs are listed, use the configuration Tool to assign GPI outputs to the current channel, then return to this step. [“Setting GPI output triggers” on page 45](#).

3. Use the control knob to highlight a GPI Position, then push in the knob to select.

Action	Trigger point
Start of event	First frame of event
End of event	Last frame of event


The GPI trigger symbol  is displayed on the event thumbnail.

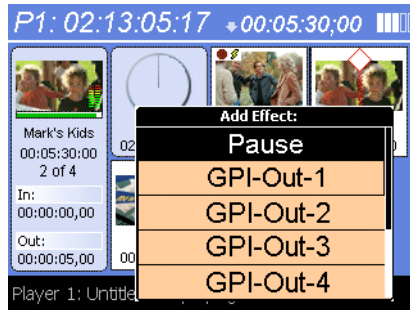
### Removing GPI output triggers

- Rotate the control knob to select an event in the playlist, then press **MENU** , and choose **Remove Effect**.

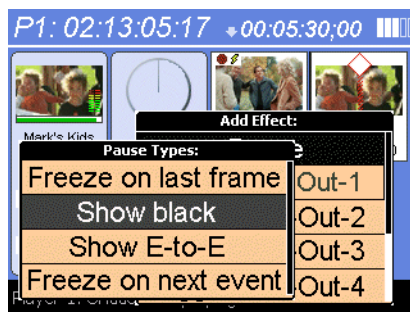


## Pausing at the end of an event

1. Rotate the control knob to select an event in the playlist, then press **MENU** , and choose **Add Effect**.



2. Rotate the control knob to highlight **Pause**, then push in the knob to select.



3. Rotate the control knob to highlight **Show black**, **Freeze on last frame**, **Show E-to-E**, or **Freeze on next event**, then push in the knob to select.

The Pause symbol  is displayed on the event thumbnail.

## Importing and exporting media

This section includes the following topics:

- [“About importing media” on page 98](#)
- [“To import a video file” on page 98](#)
- [“To import a still image file” on page 98](#)
- [“About exporting media” on page 100](#)
- [“To export media” on page 100](#)

## About importing media

You can import media using standard multimedia media and still image file formats. Source files can be located on a local Turbo iDDR disk drive (fixed or removable media), or a mapped networked drive.

### Supported multimedia file formats

Supported File formats	Video elementary format	Audio elementary format
AVI		
MPEG program streams	MPEG-2 Video	MPEG Layer II Audio 48 kHz, 16 bit stereo PCM Dolby digital (AC-3)
GXF	DV25 MPEG-2 Video	48 kHz, 16 bit stereo PCM Dolby digital (AC-3)
WMV (Windows Media)	Windows Media Video	Windows Media Audio
QuickTime		

### Supported still image and image sequence file formats

You can import still images and image sequence files from local Windows drives, or networked devices. Imports are recorded using the aspect ratio and resolution you specify. Still images are imported as a clip with a duration that you specify.

Supported file types include: .jpg, .bmp, .tiff, .tga, .gif, .png.

**NOTE:** Before playing a clip that is being imported from a file or stream, use the Transfer Monitor to verify that the clip transfer rate is higher than the clip data rate. This is required to prevent playback problems due to insufficient bandwidth.

## To import a video file

When you import media from a file, the media is converted and stored using the iDDR native file format.


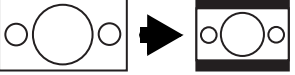
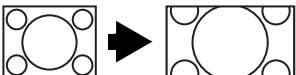
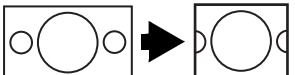
## To import a still image file

You can import still image or image sequence files. When imported, the image is recorded as a clip using the duration, aspect ratio, and resolution you specify.

1. Press **CLIPS**.
2. Press **MENU**.
3. Scroll through the list and select **Import**.
4. Browse to locate the file you want to import, and select it using the control knob.
5. Rename the file, if desired.

Use the on-screen keyboard to change the filename, then touch **Done** or press **Enter** on an external keyboard.

Refer to the following table to choose import options.

What type of image is this?		
	<b>Fixed duration</b>	Select if importing the first of a set of sequentially numbered files.
	<b>First of a numbered sequence</b>	Select if importing a still image to be displayed for a fixed period of time.
<b>What is the duration?</b>		Enter a duration using the timecode entry numberpad.
What is the input frame format?		
	<b>PC (VGA, XGA, etc.)</b>	For computer generated images files. During import the image is gamma-corrected, deflickered and resized to a title-safe area. Gamma correction modifies mid range color tones leaving the extreme tones untouched. Compensates for different PC monitors and their display characteristics. The image is assumed to have square pixels.
	<b>HD 1920x1080 59.94Hz</b>	Images are HD frames, and have square pixels. The playout rate is 59.94Hz interlaced. The playout picture size is 1920x1080
	<b>HD 1920x1080 50 Hz</b>	The images are HD frames, and have square pixels. The playout rate is 50Hz interlaced. The playout picture size is 1920x1080
	<b>HD 1440x1080 59.94Hz</b>	Images are HD frames, and have square pixels. The playout rate is 59.94Hz interlaced. The playout picture size is 1440x1080
	<b>HD 1440x1080 50 Hz</b>	The images are HD frames, and have square pixels. The playout rate is 50Hz interlaced. The playout picture size is 1440x1080
What type of clip should be created?		
	<b>HD</b>	Imports the image file as an HD clip at the current iDDR frame rate setting.
	<b>SD 4:3</b>	Imports the image file as a 4:3 SD clip at the current iDDR frame rate setting.
	<b>SD 16:9</b>	Imports the image file as a 16:9 SD clip at the current iDDR frame rate setting.
How should the image aspect ratio be converted?		
	<b>Bars</b>	<div>Standard to Widescreen</div>  <div>Widescreen to Standard</div> 
	<b>Crop</b>	<div>Standard to Widescreen</div>  <div>Widescreen to Standard</div> 

## About exporting media

You can export iDDR clips using standard media file formats. The following table describes the file formats supported.

Export: File Formats Supported <sup>a</sup>
AVI DV25 or uncompressed (.avi)
General Exchange Format [SMPTE 360M] (*.gxf)
MPEG Program Streams (.mpg)
Windows Media (.wmv)

<sup>a</sup> When exporting playlists or programs to a file, only the GXF format is available

Files can be exchanged over an Ethernet connection to network drives or using common forms of removable media such as CD-R, DVD-R, external USB drives and flash drives.

## About sending files to external drives

The following are operational considerations when sending files to external drives:

- **Estimating clip file sizes** - AppCenter does not prevent you from sending a file that is larger than the space available on the target disk. The transfer fails when the disk becomes full. To avoid this problem, check the clip size reported in the clip properties dialog box. You can use this to estimate the disk space required for the clip.
- **Best transfer performance** - File transfers are handled concurrently, up to four at a time. Additional transfer requests are queued. To enhance transfer performance, you may try limiting transfers to one at a time.
- **Adding/Removing USB devices** - The USB connectors on the rear panel and front panel can be used to connect a mouse, keyboard, USB drive, or other USB device. Do not plug or unplug these devices while the iDDR is being used for critical play to air activity.
- **Maximum file sizes when exporting assets to USB drives**- Exporting assets with long durations may result in file sizes that exceed 4GB. Some USB drives are formatted using FAT/FAT32 which has the 4GB maximum file size limitation. Attempting to send a file to these disk volumes will cause the transfer operation to fail. Disk volumes formatted using NTFS allow larger maximum file sizes. Before exporting an asset, be sure to check that the file size is less than 4GB, otherwise, ensure that the file system on the target drive supports larger files sizes.

## To export media

1. Select the file (event or clip) to export.
2. Press **CLIPS**.
3. Press **MENU**.
4. Scroll through the list and select **Export**.
5. Browse to and select the location to export the file to.

## 6. Select the export file type:

MPEG File (.mpg)
SMPTE 360M (.gxf)
Microsoft AVI (.avi)
Windows Media (.wmv)

Format	Export Settings	Comment
<b>Microsoft Video 1</b>	none	
<b>Uncompressed</b>	none	
<b>Microsoft DV</b>	Interleaved (Type 1)	Exports a Type 1 AVI file which contains a standard DV bit stream where the video and audio streams interlaced together. This type of AVI file can only be read by software applications that support DirectShow. This file cannot be read by applications that are only compatible with Video for Windows.
	Non-Interleaved (Type 2)	Exports a Type 2 AVI file which produces a VFW compatible AVI file format. This file type has separate streams for video and audio and it can also be processed by DirectShow. The advantage of creating an Type 2 file is that the file can be read by the older applications that do not support DirectShow.
<b>Windows Media</b>	Refer to the Microsoft Windows Media support website for information on choosing the best settings for your application	

## Managing media

The iDDR front panel Clips display is used to manage the clips, subclips, and playlists stored on the iDDR. Almost all the media management tasks you'll perform fall in the following categories.


- [“Guide to using the Clips display” on page 103](#)
- [“Working with bins” on page 105](#)
- [“Working with assets” on page 107](#)
- [“Erasing a clip's unused media” on page 107](#)
- [“Working with the Recycle Bin” on page 108](#)
- [“Viewing bin and asset properties” on page 109](#)

**NOTE:** Additional media management features are available in AppCenter Workstation even when the iDDR is in front panel control mode. These features include search, adding user metadata, and more. See [“Managing media” on page 213](#) for more information.

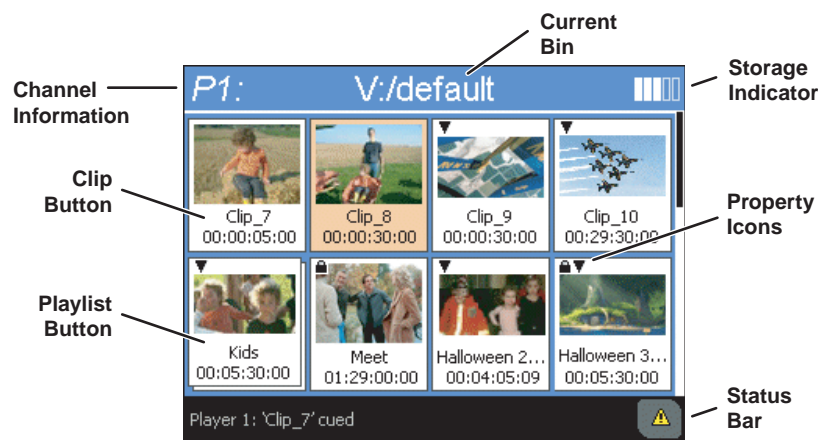
## Guide to using the Clips display




The Clips display is used to manage assets stored on the iDDR internal disk drives. Assets include [clips](#), and [playlists](#), and [programs](#). In addition to the typical file management tasks such as browse, copy, move, delete, and managing the directory structure, you'll also use the clips pane to transfer files to other devices, and to import or export assets using standard file formats (See [“Importing and exporting media”](#) on page 97 and [“Transferring media between Turbo iDDRs”](#) on page 204.)






**NOTE:** Even though you are in front panel operation mode, you can still manage assets and monitor channel status using the AppCenter Workstation Clips pane.

- To show the clips display, press the **Clips**  button.

The following table describes the Clips display.



Control	Description and User Operation
<b>Channel Information</b>	
Selected Channel	Displays the active channel number. The channel label appears in the upper left corner of every front panel display and menu.
	
Current Bin	Shows the name of the current bin being displayed. To change the current bin, see <a href="#">“Changing the current bin”</a> on page 105.
	
Storage Indicator	Graphically represents the remaining disk storage space.
	

Asset Buttons	
<b>Clip</b>	Clips are shown with a thumbnail, the clip name, and length.
	
<b>List</b>	List buttons are similar to clip buttons, but show an extra “layer” to suggest multiple media references.
	
Property Icons	
<b>Locked</b>	Appears when the asset has been locked. Locked assets cannot be deleted.
	
<b>Up-converted</b>	Appears when the clip’s aspect ratio does not match the play channel video output type. This icon indicates that the clip will be up-converted. For example a clip with a 4:3 aspect ratio will be up-converted to play out a video output set for a 16x9 (widescreen) aspect ratio. Note that the same clip may have different conversion icons with different play channels. The conversion icon follows the active channel. When the recorder is active, then the conversion icon is determined by play channel P1 video output setting.  <i>NOTE: If a list contains at least one event that needs to be up-converted, then the list asset will be shown with the up-conversion icon.</i>
	
<b>Down-converted</b>	Appears when the clip’s aspect ratio does not match the play channel video output type. This icon indicates that the clip is going to be down-converted. Note that the same clip may have different conversion icons with different play channels. The conversion icon follows the active channel. When the recorder is active, then the conversion icon is determined by P1’s video output format.  <i>NOTE: If a list contains at least one event that needs to be up-converted, then the list asset will be shown with the up-conversion icon.</i>
	



## Working with bins





A bin is the container used to organize assets on the disk drives, similar to a directory or folder on a computer. The iDDR does not support nested bins, that is, a bin cannot contain another bin.

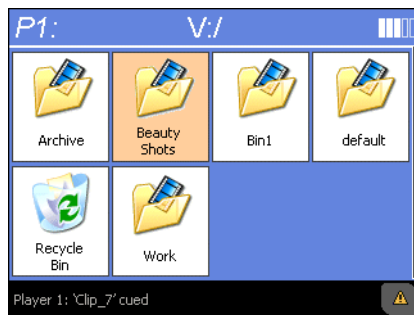
Topics here include:

- “Changing the current bin” on page 105
- “Creating a new bin” on page 105
- “Renaming a bin” on page 106
- “Deleting a bin” on page 106

### Changing the current bin

1. To open the Bins display, do one of the following:

- Press **CLIPS** twice—  +  , or
- Press **CLIPS**  , then press **MENU**  , and choose **Organize Bins**.







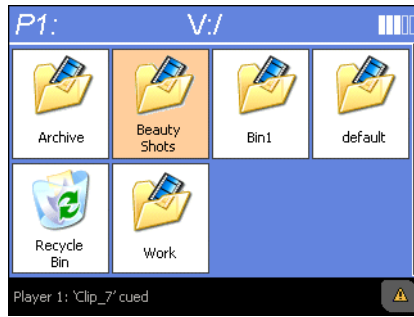
2. Use the control knob to highlight a bin, then push in the knob to select.


The Clips display is shown, and displays the contents of the selected bin.

### Creating a new bin






1. Open the Bins display, using one of the following:

- Press **CLIPS** twice—  +  , or
- Press **CLIPS**  , then press **MENU**  , and choose **Organize Bins**.








2. Press **MENU** , then choose **New Bin**.
3. Use the text entry control or an external keyboard to name the bin.

### **Renaming a bin**

1. Open the Bins display, using one of the following:
  - Press **CLIPS** twice—  + , or
  - Press **CLIPS** , then press **MENU** , and choose **Organize Bins**.
2. Press **MENU** , then choose **Rename**.
3. Use the text entry control or an external keyboard to rename the bin, then touch **Done** or press **Enter** on the external keyboard.

### **Deleting a bin**





1. Open the Bins display using one of the following:
  - Press **CLIPS** twice—  + , or
  - Press **CLIPS** , then press **MENU** , and choose **Organize Bins**.
2. Press **MENU** , then choose **Delete**.

Deleted bins are moved to the Recycle Bin unless it is bypassed. (See [“Bypassing the Recycle Bin when deleting” on page 109](#).) Holding down the **SHIFT** key during delete also bypasses the Recycle Bin.

**NOTE:** You cannot delete a bin containing assets that are locked or in use. However, the unlocked assets in the bin will be deleted.


## Working with assets

Assets include clips, subclips, playlists, and programs. The following table describes how to perform common asset management tasks.

To	Do this
<b>Rename assets</b>	<ol style="list-style-type: none"> <li>1. Use the control knob to highlight the asset in the Clips pane.</li> <li>2. Press <b>MENU</b> , then use the control knob to choose <b>Rename</b>.</li> <li>3. Use the control knob or external keyboard to rename the asset.</li> <li>4. Select <b>Done</b> in the onscreen keyboard, or press <b>Enter</b> on the external keyboard.</li> </ol>
<b>Delete assets</b>	<p>You can safely delete a clip without harming the subclips, playlists, and programs created from it. The media referenced by subclips, playlists, and programs is preserved when the clip is deleted. Once the source clip is deleted, subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.</p> <ol style="list-style-type: none"> <li>1. Use the control knob to highlight the asset in the Clips pane.</li> <li>2. Press <b>Menu</b> , then use the control knob to choose <b>Delete</b>.</li> </ol> <p><i><b>NOTE:</b> Deleted assets are moved to the Recycle Bin unless the bypass Recycle Bin option is used. You must empty the Recycle Bin to free storage space.</i></p>
<b>Copy or Move assets</b>	<ol style="list-style-type: none"> <li>1. Use the control knob to highlight the asset in the Clips pane.</li> <li>2. Press <b>MENU</b> , then use the control knob to choose <b>Copy To...</b> or <b>Move To...</b></li> <li>3. Select the destination location from the menu.</li> </ol> <p><i><b>NOTE:</b> To copy or move multiple assets, press <b>Menu</b>, then choose <b>Select All</b> or <b>Multiple Selection</b>. Multiple Selection operates the same as CTRL+click on an external keyboard. See <a href="#">“Select multiple assets in a bin” on page 107</a>.</i></p>
<b>Lock assets</b>	<ol style="list-style-type: none"> <li>1. Use the control knob to highlight the asset in the Clips pane.</li> <li>2. Press <b>MENU</b> , then use the control knob to choose <b>Lock</b>.</li> </ol>
<b>Select multiple assets in a bin</b>	<p>Press <b>MENU</b>, then choose <b>Multiple Selection</b> using the control knob. This allows you to select several events in the playlist rather than have each new selection un-select the previous item.</p>
<b>Select all assets</b>	<p>Press <b>MENU</b>, then choose <b>Select All</b> using the control knob. All events in the assets in the bin are selected.</p>

## Erasing a clip's unused media

After editing a clip by moving the mark-in/mark-out points, the remaining portion of media outside the marks can be erased to free media storage space. If the media outside the clip marks is referenced by a subclip, program, or event from a playlist, that media is not erased. Subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.

1. Use the control knob to highlight the clip in the Clips pane.
2. Press **MENU** , then use the control knob to choose **Erase Unused Media**.

Unused media is erased when you select the **OK** button and the Properties dialog box is closed. After erasing unused media, the following is true:

- Media outside the clip marks is erased except that portion referenced by a subclip, playlist event, or program.
- All subclips and events generated from the source clip will retain 1 second of media before the mark-in and after the mark-out.
- Event-in becomes the first video frame of the file
- Event-out becomes the last video frame of the file
- Clip length becomes the total file length.





## Working with the Recycle Bin

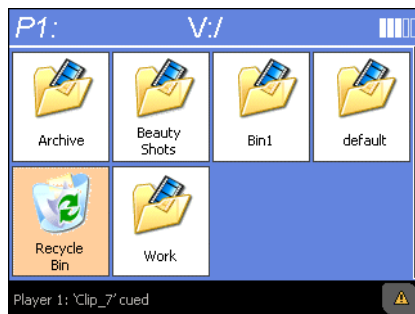
Deleted assets are placed in the Recycle Bin unless it is bypassed. Assets remain in the Recycle Bin and continue to take up media disk space until the Recycle Bin is emptied. You can work with assets in the Recycle Bin just like any other bin.

This section includes the following topics.

- [“Viewing the Recycle Bin contents” on page 108](#)
- [“Emptying the Recycle Bin” on page 109](#)
- [“Bypassing the Recycle Bin when deleting” on page 109](#)

### Viewing the Recycle Bin contents


1. Open the Bins display using one of the following:
  - Press **Clips** twice— + , or
  - Press **Clips** , then press **Menu** , and choose **Organize Bins**.



2. Use the control knob to highlight Recycle Bin, the push in to select.




## Emptying the Recycle Bin

Emptying the Recycle Bin contents permanently removes the assets from media disk drives.

- Open the [Clips display](#) or [Bins display](#), then press **Menu** , and choose **Empty Recycle Bin**.

## Bypassing the Recycle Bin when deleting

You can configure the iDDR so that deleted assets are immediately removed from the media disk drives and bypass the Recycle Bin.


- Press **Clips** twice— + , then press **Menu** , and choose **Bypass Recycle Bin**.

**NOTE:** Holding down the **SHIFT** key during delete also bypasses the Recycle Bin.

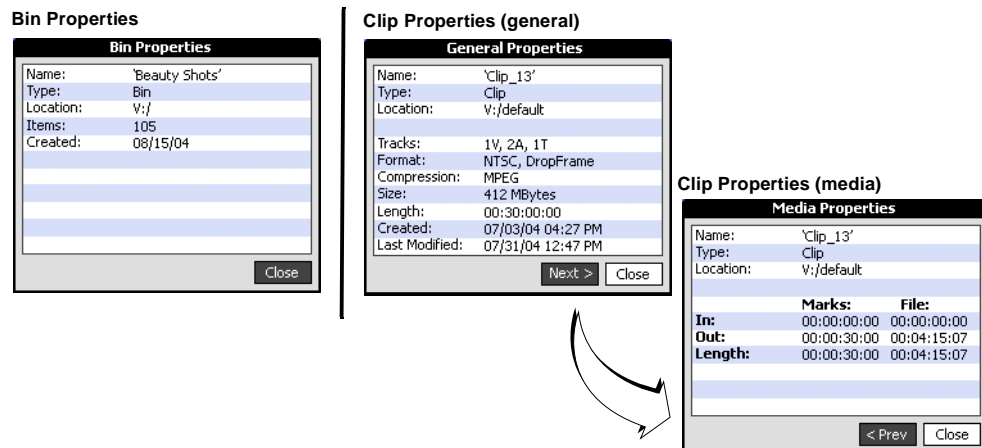
## Viewing bin and asset properties

You can view the properties of all assets shown in the Clips and Bins displays, including clips, playlists, programs, and bins.

To display properties:

- Use the control knob to highlight the asset in the Clips or Bins display.  
You can also touch the item in the display to select it.
- Press **MENU** , then choose **Properties**.

The properties dialog is displayed.

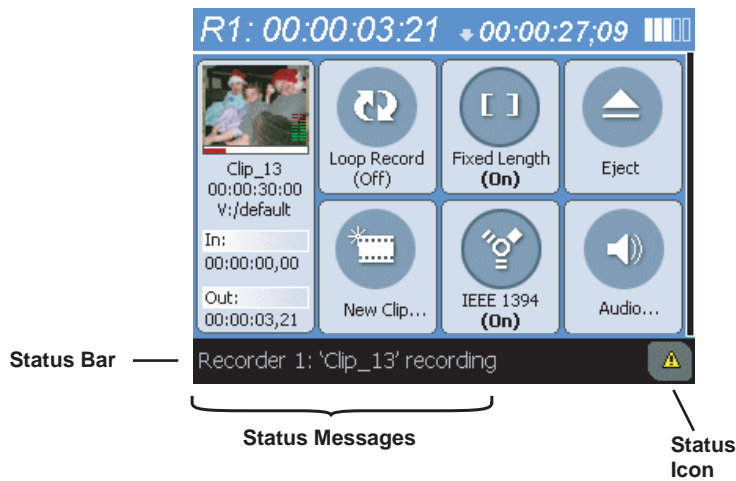





# Monitoring operation using the Status Bar

The Status Bar is located across the bottom of the front panel display and consists of a message area and status icon.

Topics here include:

- “Types of messages displayed in the Status Bar” on page 110
- “Interpreting the Status Icon” on page 111
- “Viewing iDDR system log messages” on page 111



Icon Name	Description
	Protocol Monitor This icon appears when a channel is configured for remote control using a remote control protocol application. The Protocol Monitor icon flashes when any protocol is successfully receiving serial control protocol commands.
	Transfer Monitor Appears during a file transfer or import/export operation.
	Status Always appears on the StatusBar, however, the button symbol changes depending on the system status. See “Interpreting the Status Icon” on page 111.

## Types of messages displayed in the Status Bar




In normal operation, the message area displays status messages for the selected channel, however, if a problem develops with the system software or a hardware subsystem, the Status Bar flashes and an error message is displayed for approximately

5 seconds. Afterward, the display returns to the channel status message and the error message is written to the status log file. The following table gives examples of the types of messages displayed in the Status bars.

Message Type	Example Messages
Channel Status Message	Player 1: 'Clip 7' cued Recorder 1: 'Clip 13' recording No clip loaded.
System Error Message	Media disks are full. Cannot record the clip; The system drive is at full capacity. Disk recorder operations will fail. Delete unused or temporary assets, and restart disk recorder.

## Interpreting the Status Icon

When a message is written to the status log, a *Status Icon* is displayed in the Status Bar indicating the severity of the message.

Status Bar Icon	Name	Description
	Information	All warnings and alert messages have been cleared.  <i>NOTE: Messages are cleared using the System Status Display. See <a href="#">“Viewing iDDR system log messages” on page 111</a>.</i>
	Warning	There is at least one warning message, and no alert messages.
	Alert	There is at least one uncleared alert message.

## Viewing iDDR system log messages

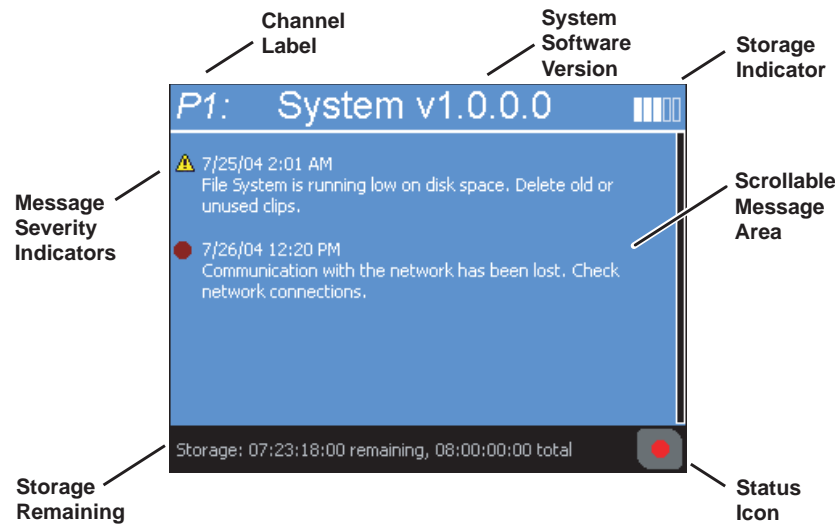
The System Status Display is used to view all messages in the system log. The System Status Display provides a central message area where status messages are listed.

System Status Display Topics:

- [“Opening the System Status Display”](#)
- [“Showing iDDR software versions”](#)
- [“Clearing messages”](#)

### Opening the System Status Display

- To open the System Status Display, press the **MENU** button, then use the control knob to scroll and select **Tools**, then select **System Status**.



### Showing iDDR software versions

To display software versions:

1. Press the **MENU** button, then use the control knob to scroll and select **Tools**, then **System Status**.
2. From within the System Message area, press the **MENU** button and select **Software Versions**.

### Clearing messages

To clear all status messages:

1. Press the **MENU** button, then use the control knob to scroll and select **Tools**, then **System Status**.
2. From within the System Message area, press the **MENU** button and select **Clear All Messages**.

All messages are removed from the System Status Display, and the status icon is removed from the Status Bar.



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## ***Operation: AppCenter Workstation***

Topics in this section include:

- [“Introducing AppCenter” on page 114](#)
- [“Recording clips” on page 124](#)
- [“Playing and editing clips” on page 141](#)
- [“Working with playlists” on page 162](#)
- [“Importing and exporting media” on page 197](#)
- [“Transferring media between Turbo iDDR’s” on page 204](#)
- [“Monitoring media file transfers” on page 207](#)
- [“Managing media” on page 213](#)
- [“Monitoring the system using the StatusBar” on page 246](#)

## Introducing AppCenter

AppCenter is the built-in video disk recorder application that provides a single interface for tasks such as channel control, configuration, clip management, media transfers, channel monitoring, and system monitoring. You can access AppCenter by connecting a VGA monitor, mouse, and keyboard to the Turbo iDDR.

Topics in this section include:

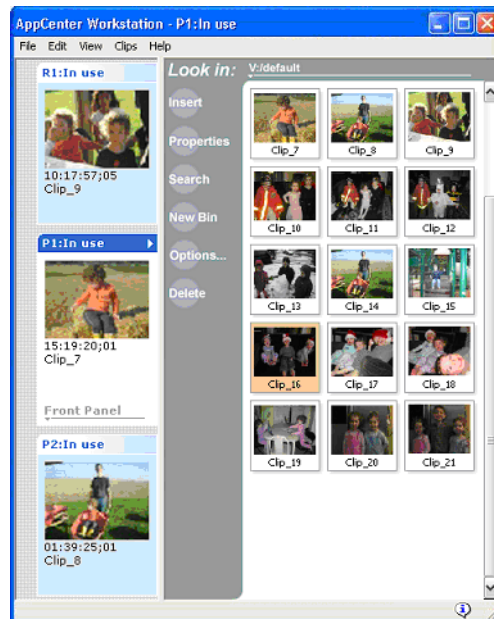
- [“Starting AppCenter” on page 115](#)
- [“Using AppCenter in front panel control mode” on page 115](#)
- [“Using AppCenter in workstation control mode” on page 116](#)
- [“Enabling the workstation control mode” on page 116](#)
- [“Shutting down AppCenter and Windows” on page 116](#)
- [“AppCenter user interface overview” on page 118](#)
- [“Channel modes in AppCenter” on page 120](#)
- [“Tools in AppCenter” on page 121](#)
- [“Conventions used in the AppCenter interface” on page 122](#)
- [“Terms and concepts used in AppCenter” on page 123](#)
- [“Selecting the channel mode” on page 124](#)
- [“Using on-screen transport controls” on page 124](#)

## Starting AppCenter

At power-up, the Windows operating system starts. On the Windows desktop, open the AppCenter shortcut to start AppCenter.

## Using AppCenter in front panel control mode

At first power up, the Turbo iDDR is in front panel control mode by default. This mode enables front panel control and disables (closes) the AppCenter channel pane. Only the monitor pane and the clips pane are displayed.

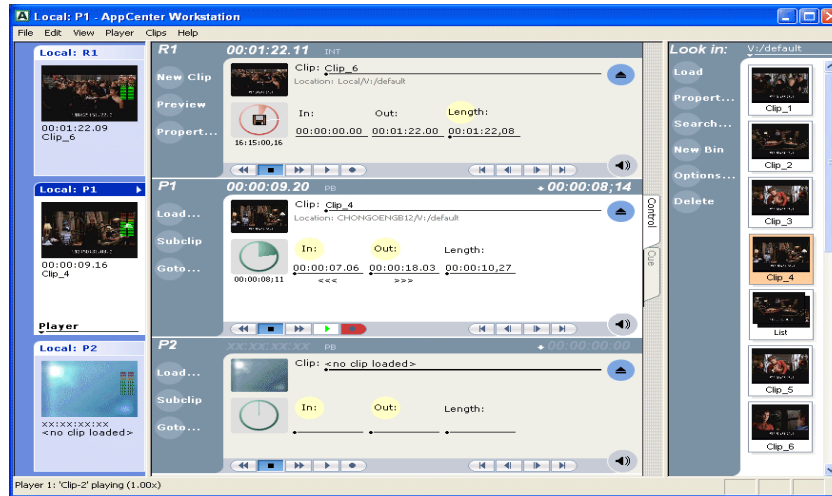


While the Turbo is in front panel control mode, each channel's monitor pane displays "In Use". When the channel is selected its mode is displayed as "Front Panel". In front panel control mode you can use AppCenter to do the following:

- Monitor channels using the monitor pane.
- Manage media using the clips pane. This includes all file management tasks and importing, exporting, and transferring media.
- Monitor Turbo system status using the Status Bar.

## Using AppCenter in workstation control mode

Workstation control mode enables (opens) the AppCenter channel pane and disables front panel touch screen control.



In workstation control mode, the front panel has limited use:

- Control play out using front panel transport controls.
- Monitor channel status.
- Select a channel.

## Enabling the workstation control mode

Select **View | Workstation** to switch to workstation control mode. Likewise, select **View | Front Panel** to switch to front panel control mode.

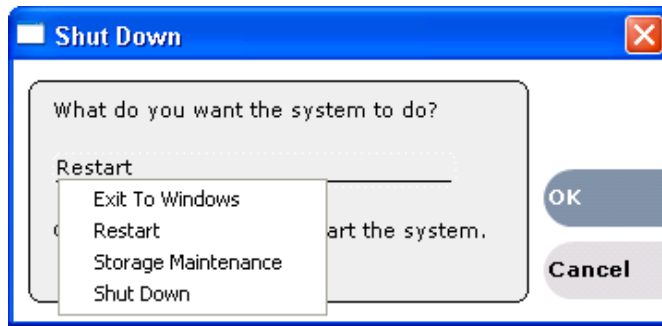
Upon restart, the Turbo returns to its last control mode.

Refer to *“Turbo iDDR control modes” on page 27* for more information about the different control options for a Turbo iDDR.

## Shutting down AppCenter and Windows

To shut down AppCenter, do one of the following:

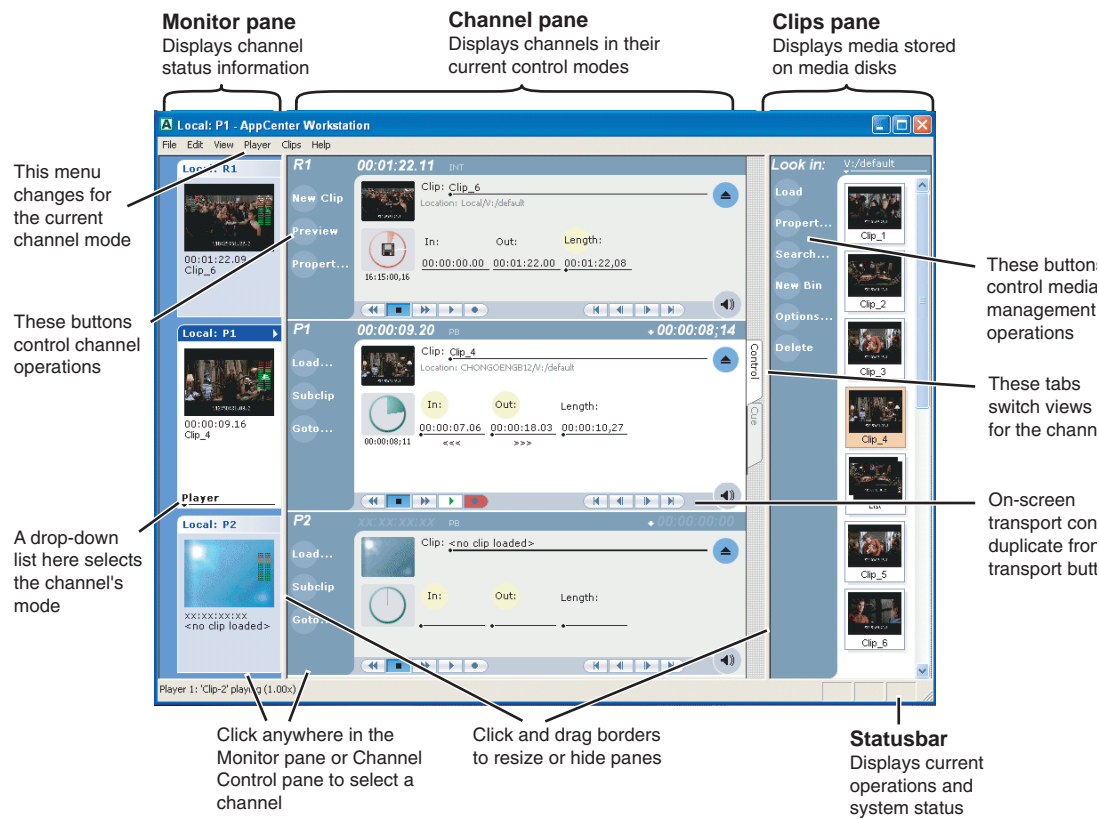
- Click the standard Windows **X** button in the title bar, or
- Select **System | Shutdown**. The Shutdown dialog box opens.



Shutdown options are as follows:

Shutdown Mode	Description
Exit to Windows	Exit AppCenter and display the Windows desktop. Use the desktop shortcut to restart AppCenter.
Restart	Exit AppCenter and restart the Windows operating system.
Storage Maintenance Mode	Exit AppCenter and restart the iDDR in storage maintenance mode to allow maintenance on the media disk subsystem. Refer to the <i>Turbo iDDR Service Manual</i> for procedures.
Shutdown	Shutdown the Windows operating system and power-off the iDDR.

AppCenter user interface overview

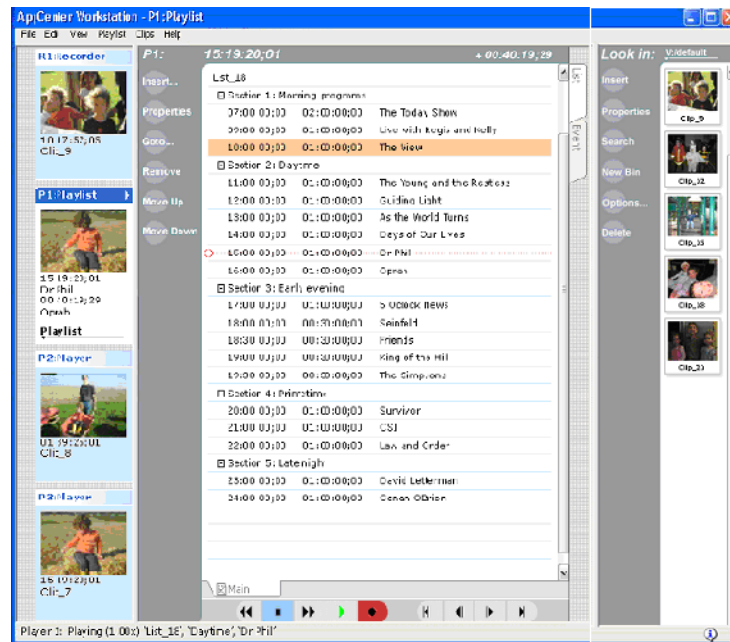


Main components in the AppCenter user interface

The following describes the main components in the AppCenter window

AppCenter Component	Description
Monitor pane	Displays the current information for the channel. Displays a thumbnail of the clip currently loaded in the channel and indicates the current control mode for the channel. Contains a drop down menu for changing the channel's mode. For the currently selected channel, the monitor pane has a white background.
Channel pane	Displays each channel in its current mode. Only one channel can be selected at a time. The currently selected channel is displayed with transport controls, View tabs, and a white background.
Clips pane	Displays media stored on the Turbo iDDR and provides controls for media management.
StatusBar	Displays status and error messages.

### Displaying the channel pane in full screen



Select **View | Fullscreen** to fill the entire channel pane with only the selected channel. This is useful when you need more room to display information, such as a long list in Playlist mode.

To return to split screen, select **View | Split Screen**.

## Channel modes in AppCenter




AppCenter channels have modes for performing essential tasks. When AppCenter starts, each channel comes up in a mode. (See [“Selecting the channel mode” on page 124.](#))

Channel Mode Name	User Interface	Channel Type Required	Essential Tasks
Recorder		Recorder	Recording clips
Player	<p><b>Control View</b></p>  <p><b>Cue View</b></p> 	Player	Play clips, edit and trim clips, create sub-clips, and payout using cue points.
Protocol modes including Player and Recorder		Player	Operate remotely using industry standard serial control protocols over RS-422 or Ethernet. Protocol-specific recorder and player modes are provided for each supported protocols.
Playlist	<p><b>List View</b></p>  <p><b>Event View</b></p> 	Player	Create and play event playlists; Lists include clips recorded in Recorder mode or imported using the clips pane.



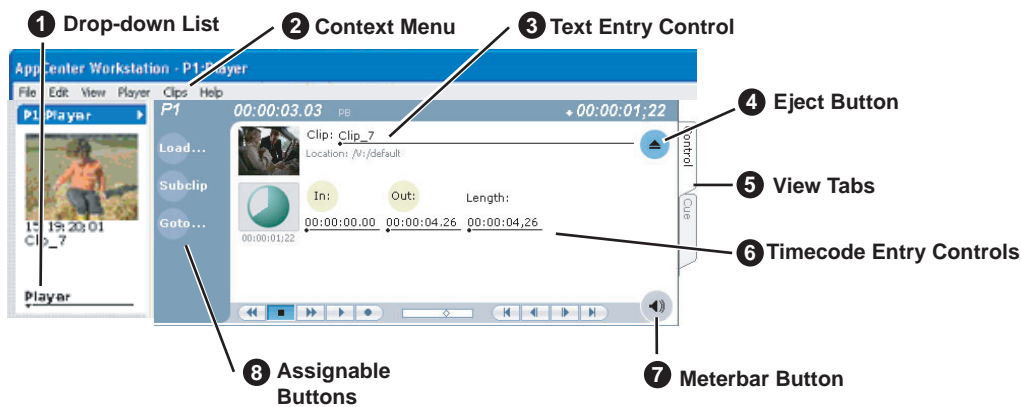
## Tools in AppCenter

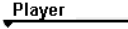
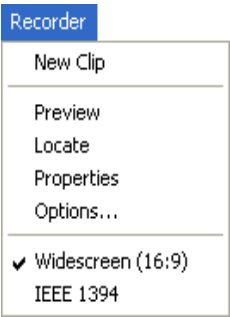
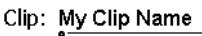


AppCenter includes the following tools for managing the iDDR and its assets.

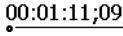

Tools	User Interface	Essential Tasks
Configuration Manager		Configuring system settings
Transfer Monitor		Monitoring media transfers, including network transfers and file import/export
Online Help		Complete documentation of operational tasks.

## Conventions used in the AppCenter interface

The following table describes the graphical conventions used for the user controls in the AppCenter interface. These graphical elements are used throughout the interface to indicate such items as drop-down lists and text entry controls.



Convention	Graphical Description and User Action
<div><b>1 Drop-down list</b> </div>	A horizontal line and arrowhead. Select and choose from a list of items in the drop-down list.
<div><b>2 Context Menu</b> </div>	This menu changes depending on the mode of the selected channel. It becomes a menu for Recorder, Player, or Playlist.
<div><b>3 Text Entry Control</b> </div>	A horizontal line and small dot. Select to open the text entry dialog.
<div><b>4 Eject Button</b> </div>	Select to eject the current clip
<div><b>5 View Tabs</b> </div>	Select one tab or the other to toggle between different views in Player mode or in Playlist mode.

Convention	Graphical Description and User Action
<b>⑥ Timecode Entry Control</b> 	A horizontal line and small dot. Select to open the timecode entry dialog box.
<b>⑥ Meterbar Button</b> 	Select to toggle between the Meterbar and the mode interface. The Meterbar contains video and audio meters, and the audio level controls.
<b>⑦ Assignable Button Groups</b>	Some button groups are assignable. (The Play view button group is shown here.) Right-clicking a button opens a pop-up menu which lists the alternative button choices. This allows you to customize the user interface to suit your workflow.

Throughout the AppCenter interface, you can substitute a click-and-hold action—lasting one second or more—for a right-click action.

## Terms and concepts used in AppCenter

**Selected channel** – Of the three channels, there is always one selected channel. When a channel is selected, the channel is displayed with a white background in the channel pane. The front panel transport controls and keyboard are delegated to controlling the selected channel. There are three ways to select the channel: pressing a channel select button on the front panel, selecting a channel in the monitor pane, or pressing a keyboard shortcut. Changing the channel selection does not disrupt other channels, they continue to operate in the background.

**Channel mode** – Channels in AppCenter are always in one mode or another. Each mode has its own set of buttons, lists, controls, and other characteristics, relative to the operations performed in that mode. The name of the mode for the channel is displayed in the channel’s monitor pane, which is also where you can change the mode for the channel. [“Selecting the channel mode” on page 124.](#)

**Assignable buttons** – Some buttons are assignable which means that you can change the action associated with the button to better suit your workflow. Right-clicking a button causes a pop-menu to appear which lists the alternative button choices for that button.

**Clip thumbnail** – Used for visual identification of a clip. By default, the thumbnail is generated from the 16th frame of video. You can select a new thumbnail using Player. If no thumbnail is available, an icon is displayed showing there is no thumbnail.

**Volume** – The set of media drives that functions as a single physical disk in the iDDR. The volume name used in the iDDR is ‘V:’ for the internal drives.

**Bin** – A bin is a container used to organize assets like clips and lists in the same way as directories or folders are used on a typical computer system. A bin is associated with a single disk volume.

**Current Bin** – The current bin functions as the target bin when recording clips or creating playlists. It is also the source bin used to load clips and lists.

## Selecting the channel mode

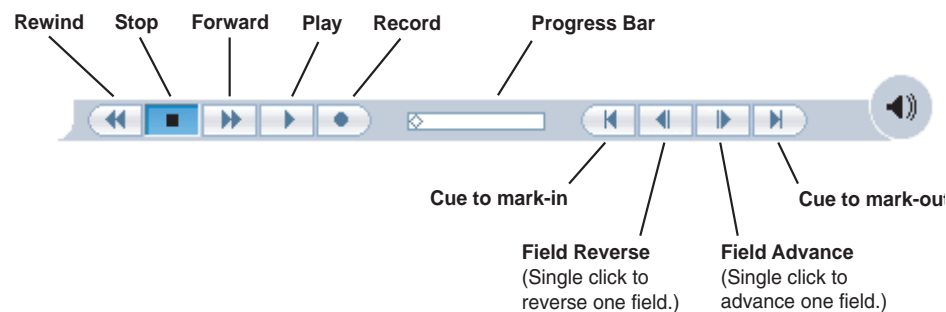
When the Turbo iDDR is started, each channel comes up in its last used mode. From the factory, Recorder mode starts on the record channel, and Player mode starts on both play channels.

To change channel modes, in the monitor pane, select the channel mode drop-down list **Player** for the channel, then choose a mode.

The selected mode replaces the current mode and appears in the channel's space in the channel pane. The channel becomes the selected channel.

## Using on-screen transport controls

All channel modes have on-screen transport controls.



## Recording clips

The recorder display is used to record clips on the iDDR. You can play the clip while it is still recording, or you can finish the recording, and then play the clip or add it to a playlist.

This section includes the following topics:

- [“About recording clips” on page 125](#)
- [“About loop record mode” on page 125](#)
- [“Guide to using Recorder mode” on page 128](#)
- [“Before you record: Recorder settings checklist” on page 130](#)
- [“To record a clip” on page 131](#)
- [“Using IEEE 1394 Record mode” on page 135](#)
- [“Previewing a clip that is recording” on page 137](#)
- [“Changing the timecode source” on page 138](#)
- [“Selecting widescreen mode” on page 139](#)
- [“Changing the current bin” on page 139](#)
- [“Renaming a clip” on page 140](#)
- [“Viewing clip properties” on page 140](#)

- [“Locating a clip” on page 141](#)
- [“Displaying available storage space” on page 141](#)

## About recording clips

**Select record channel signal inputs** – Before you start recording, you may need to select video, audio, and timecode inputs. Refer to [“Modifying recorder channel \(R1\) settings” on page 39](#).

**Missing or intermittent LTC timecode** - If LTC is the selected timecode source and the LTC signal is missing, i.e. LTC not connected, the current timecode display shows XX:XX:XX:XX. Also, clips recorded without timecode will show no mark-in/mark-out timecode after recording. When LTC is detected, but the signal is intermittent, the last valid timecode is displayed anytime the LTC signal disappears. Clips with missing or intermittent timecode will show this behavior during playback in a play channel. If LTC is intermittent or missing, try one of the following solutions:

- Use the internal timecode generator as the timecode source for recording. See [“Changing the timecode source” on page 138](#).
- Stripe the timecode after the clip is recorded using the Player application. See [“Striping timecode \(replacing the timecode track\)” on page 66](#).

**Using the video input noise reduction filter** – The video input noise reduction filter provides pre-filtering to enhance the picture quality.

**Re-recording and appending clips is not supported through the user interface** – You cannot record over a previously recorded clip. To replace the unwanted clip, delete it and record a new one. Also, appending previously recorded clips is not supported, that is, once the recording is stopped, you cannot start the recording again using the same clip. If a clip is currently loaded when record is selected, the clip is ejected, and a new clip is created before recording begins.

***NOTE:** Appending previously recorded clips is supported through AMP Serial Control Protocol. Contact Thomson Grass Valley for more information on control devices available.*

**Pre-roll time** — Recording begins as soon as record is selected.

## About loop record mode

Loop record allows you to specify a fixed length recording that records continuously. When the fixed length you specify is reached, iDDR begins to erase the oldest media in 3 minute segments to make room for new media. In this way, new media is continuously recorded while the recording is kept to a fixed length.

The loop recording is stored in the iDDR as a [program](#). The program thumbnail is displayed in the clips pane immediately after the recording starts. While recording, you can load the loop record program in Player mode for playout or to create subclips. The media referenced by the subclips that you create is saved outside the loop record program and does not subtract from the loop record length. The subclips can be inserted in Playlist mode as play events.

### Loop mode operational considerations

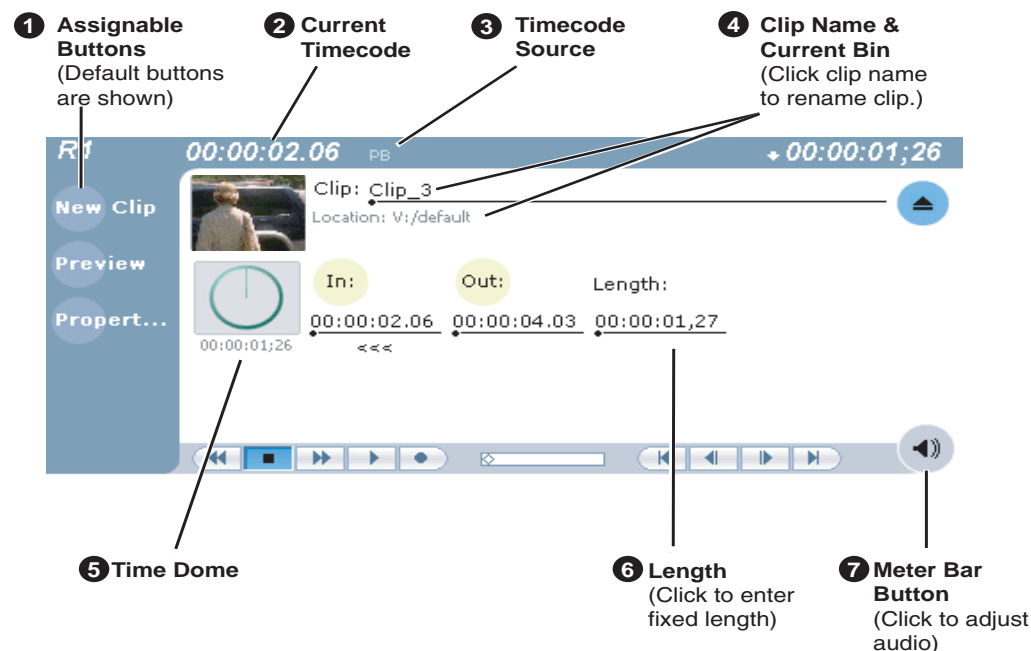
Consider the following when planning for Loop Record operation:

- **Minimum loop record length**– 6 minutes
- **Maximum loop record length**– Maximum record length is limited by the amount of storage space and the compression settings used. A message is displayed if the fixed length you enter exceeds the available disk space.
- **Minimum record to playback time**– 5 seconds. In other words, playback in loop record can start no sooner than 5 seconds after the start of record.
- **Modifying the loop record name or length**– You can modify the loop record name or length during record. If you reduce record length, the oldest media outside the new record length is erased.
- **Stopping loop record**– If the recording is stopped before the fixed length is reached, the resulting program duration is the time elapsed since the recording started. Like normal record mode, you cannot stop, then start a loop recording. Once record is stopped, you must eject the program and create a new loop record.
- **Transferring the loop record program**– The loop record program cannot be transferred to a file or networked device until record is stopped.
- **Loop record storage space is not reserved**– Loop record is allowed to start as long as the record length you enter is less than the available storage, however, the storage space is not reserved. For example, you may have enough storage space to start the loop record, but you are still allowed to transfer media or otherwise fill disk space. Warning messages are displayed in the AppCenter StatusBar when available storage reaches 10% total disk space. All recording is halted when media storage reaches its full threshold.
- **Pausing the loop record program in Player mode**– You cannot pause the loop record program in Player mode indefinitely. Eventually, the record length is reached and the video at the current position is erased. As this happens, the current position is advanced in 3 minute increments as the oldest unused media is erased.
- **Changing thumbnail image**– Thumbnail images displayed in the clips pane are generated using the 16th frame of video. The thumbnail image for a loop record program appears as normal until the fixed length is reached. Then, the thumbnail will update every 3 minutes as media is erased beginning with the oldest unused media. As the media used to generate thumbnails is erased, new thumbnails are generated.
- **Erasing oldest media is suspended when creating a subclip**– When creating subclips in Player mode, erasing oldest media is suspended when the first mark is entered (mark-in or mark-out). This means that the loop record program length may grow larger than the length specified. Erasing media is resumed and the oldest media outside the fixed length is purged when the second mark is entered and you select the Accept button. You could inadvertently fill storage space if you enter the subclip marks, but fail to click the Accept button.  
NOTE: Erasing oldest media is also resumed when you exit subclip mode by ejecting the subclip, or by clicking the Source Clip button.
- **Use genlocked inputs for time delay**– For error free time delay operation, ensure that the video input is genlocked to the video reference signal. This will eliminate

periodic picture shift.





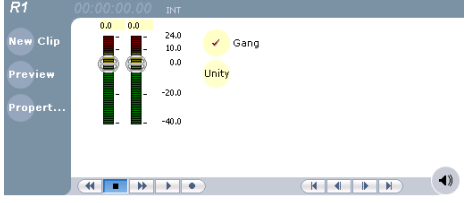
## Guide to using Recorder mode

The following describes the basic controls in the Recorder mode.




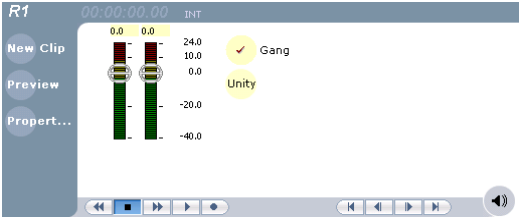

	Control	Description and User Operation
<b>1</b>	<b>Assignable Buttons</b>	<p>Assignable buttons allow you to modify the button assignments to best suit your workflow. Right-click a button to open a pop-up menu which lists the alternative button choices.</p> <p><b>Properties</b>— Same as selecting Properties on the Recorder menu.  <b>New Clip</b>— Same as selecting New Clip on the Recorder menu.  <b>Preview</b> — Same as selecting Preview on the Recorder menu.  <b>Locate</b> — Same as selecting Locate on the Recorder menu.</p>
<b>2</b>	<b>Current Timecode</b> 16:27:13;29 LTC	Indicates the current timecode of the timecode source selected for the channel. Text color is white during record, and dimmed at other times. The timecode value of XX:XX:XX:XX is displayed when the timecode source is not present or is invalid. See <a href="#">“Changing the timecode source” on page 138</a> .
<b>3</b>	<b>Timecode Source</b> 16:27:13;29 LTC	The text displayed to the right of current timecode indicates the timecode source: LTC or INT (internal generator). See <a href="#">“Changing the timecode source” on page 138</a> .
<b>4</b>	<b>Clip Name Edit Control</b> Clip: Clip_1 Location: V:/default	Displays the clip’s name and location in the media storage system. To rename the clip, click and enter text. To change the current bin, i.e. the target location for recording clips, refer to <a href="#">“Changing the current bin” on page 139</a> . You can use the clips pane to manage and organize clips. Refer to <a href="#">“Guide to using the Clips Pane” on page 214</a> .



	Control	Description and User Operation
5	<div><div></div><div><b>Progress Only</b></div><div></div><div><b>Available Storage</b></div><div></div><div><b>Available Storage and Continuous Record Mode</b></div></div>	<p>This multi-function indicator displays either record progress only, or available storage and record progress. The Time Dome also indicates when the record channel is in Loop Record mode.</p> <p>Available storage is estimated using the amount of free disk space and the video compression settings for the channel.</p> <p>The record progress indicator makes one revolution every 10 seconds in normal record, or one revolution during a fixed length recording.</p> <p>To change the Time Dome function, right-click the Time Dome, then choose a mode from the pop-up menu.</p>
6	<div><div><b>Length</b></div><div><b>Length:</b></div></div>	<p>Select the Length control to enter the clip length, then choose record. Recording continues until you choose stop, or the specified length is reached. <a href="#">See “Using Fixed Length record mode” on page 132.</a></p>
7	<div><div><b>Meterbar Button</b></div><div></div></div>	<p>Displays the Meterbar which contains the audio record level controls and signal meters. Changes to the audio level are saved for the channel.</p> <div></div>
8	<div><div><b>Context Menu</b></div><div><div><b>Recorder</b></div><div><div>New Clip</div><div>Preview</div><div>Locate</div><div>Properties</div><div>Options...</div><div>✓ Widescreen (16:9)</div><div>IEEE 1394</div></div></div></div>	<p><b>New Clip</b>– Used to create and name clip prior to starting the recording. If a clip is already loaded, selecting New Clip ejects the current clip and creates a new one.<a href="#">See “Using New Clip record mode” on page 131.</a></p> <p><b>Preview</b>– Used to load the current clip in a play channel for playback while the clip is still recording. After record is started, select Preview to load the clip into the next available play channel, then select Play. <a href="#">See “Previewing a clip that is recording” on page 137.</a></p> <p><b>Locate</b>– Locates the currently loaded clip in the clips pane. <a href="#">See “Locating a clip” on page 141.</a></p> <p><b>Properties</b>– Opens the Properties dialog for the currently loaded clip. <a href="#">See “Viewing clip properties” on page 140.</a></p> <p><b>Options</b> - Opens the Record channel options dialog box.</p> <p><b>Widescreen</b> – Sets the channel for recording widescreen format.</p> <p><b>Compressed Audio (AC3)</b> – Sets the channel for recording AC3 audio.</p> <p><b>IEEE 1394</b>– Sets the channel for recording from a IEEE 1394 device.</p>

# Before you record: Recorder settings checklist

Before recording, check the following recorder channel settings.

Record Channel Setting	Procedure
<b>1 Verify video and audio input selection</b> In the monitor pane, check the thumbnail and its audio level indicators to verify the correct record channel inputs are selected. If there is a problem, correct the settings.	
<b>2 Verify video compression data rate</b> You can manage storage capacity and video quality by adjusting the record channel compression data rate. Generally set as high as possible to obtain the storage capacity needed.	Click <b>Recorder</b> in the AppCenter main menu, then select Compressed Audio (AC3) to toggle the setting.
<b>3 Verify digital audio compression setting</b> If the digital audio source uses AC3 encoding, you must select AC3 mode, otherwise, select PCM encoding.	Click <b>Recorder</b> in the AppCenter main menu, then select Compressed Audio (AC3) to toggle the setting.
<b>4 Verify the timecode source</b> Make sure to select a valid timecode source. You can use the internal timecode generator or LTC.	See “Changing the timecode source” on page 138.
<b>5 Verify widescreen mode setting</b> If the video source is in widescreen format, you must select widescreen mode for the recorder. This attribute is saved with the clip and is used to control video scaling when the clip is played. See “Video scaling considerations” on page 37.	<p>In AppCenter main menu, click <b>Recorder   Widescreen 16:9</b> to toggle widescreen mode.</p> <p><i>NOTE: The clip aspect ratio cannot be changed once the clip is recorded. If you want to change the clip’s aspect ration attribute you must re-record the clip.</i></p>
<b>6 Adjust audio level (if needed)</b> You can use the audio leveling feature to adjust the analog or digital audio input levels, excluding dolby encoded digital audio.	<p>1. In the Recorder pane, select the <b>Meterbar</b>  button.</p>  <p>2. Adjust audio level using the graphical faders. Select the Meterbar button  again to return to Recorder view.</p>

Record Channel Setting	Procedure
<b>7 Verify video compression settings</b> Choosing a video compression setting is a trade-off between image quality and storage capacity. Higher video quality produces larger files which take up more storage space and take longer to transfer to external devices.	See <a href="#">Chapter 2, Configuration: Turbo iDDR on page 33</a> .



## To record a clip

This section covers:

- [“Using New Clip record mode” on page 131](#)
- [“Using Crash record mode” on page 131](#)
- [“Using Fixed Length record mode” on page 132](#)
- [“Specify clip length after recording has begun” on page 132](#)
- [“Using loop record” on page 132](#)

### Using New Clip record mode

To create and name a clip before recording starts:



1. Verify video, audio, widescreen, AC3 audio, and other settings for your recording, as explained in [“Before you record: Recorder settings checklist” on page 130](#).
2. Select **New Clip** to create and load a clip.
3. To rename the clip, select the default clip name Clip: Clip\_1 , then enter a new clip name.
4. Select the record button on the front panel  , or use the onscreen transport controls .

The recording progresses until you select **Stop**.

### Using Crash record mode

Crash record occurs when you start a recording without specifying a clip name. The clip is given a default name, then the recording continues until you select stop.

To crash record:

1. Verify video, audio, widescreen, AC3 audio, and other settings for your recording, as explained in [“Before you record: Recorder settings checklist” on page 130](#).
2. Select the record button on the front panel  , or use the onscreen transport controls .



The recording progresses until you select **Stop**.

### Using Fixed Length record mode

You can specify the clip length before recording, or during recording. Fixed length recording continues until the clip length is reached or until you select stop.

1. Verify video, audio, widescreen, AC3 audio, and other settings for your recording, as explained in [“Before you record: Recorder settings checklist” on page 130](#).
2. Select **Length** in the Recorder pane.  
The Length dialog box appears.



3. Enter the clip length by typing only numbers, colons are added automatically.
4. Choose **OK** in the dialog box, or press **Enter**.
5. Select the record button on the front panel , or use the onscreen transport controls .

Recording continues until **Stop** is selected or the desired length is reached. While recording, the mark in and mark out update with the current status of the clip. The Time Dome gives a visual indication of the percent complete as well as a countdown from the specified length down to **00:00:00:00**.

### Specify clip length after recording has begun

While a clip is recording you can enter the clip length, as follows:

1. Select **Length** in the Recorder pane.  
The timecode dialog box appears.
2. Enter the desired length, then select **OK** or **Enter**.  
If the entered length is valid, longer than the amount of material already recorded, the clip continues to record until it reaches the specified length or until you select **Stop**.

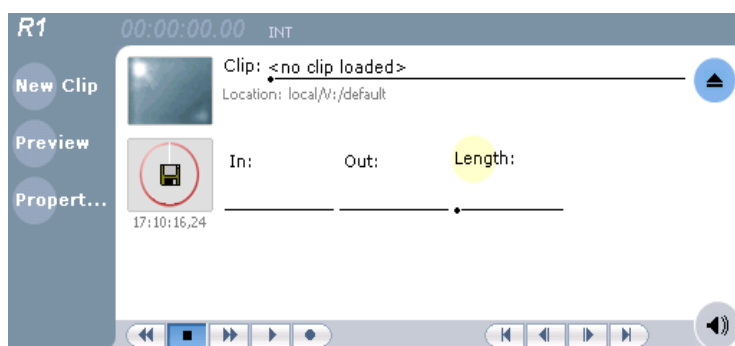
### Using loop record


You can configure Recorder for Continuous Record mode. Continuous record is useful for applications that normally use Loop Record, for example a manual time delay. Refer to [“About recording clips” on page 125](#).

1. Click the Time Dome .

The Time Dome pop-up menu appears.

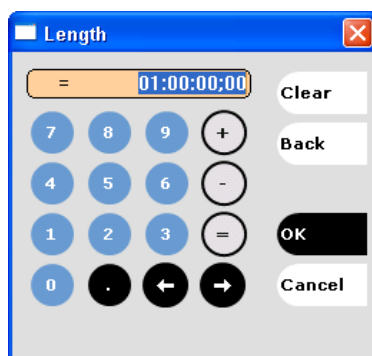
2. Choose **Continuous Record** in the pop-up menu.





The Time Dome changes to display loop record . Default loop record length is 1 hour, or the last record length used.

3. To change loop record length, click **Length**.

The Length dialog box appears.



4. Enter the clip length by typing only numbers, colons are added automatically.
5. Click **OK** in the dialog box, or press **Enter**.
6. Select the record button on the front panel , or use the onscreen transport controls .

Recording continues until **Stop** is selected. While recording, the mark in and mark out update with the current status of the clip. The Time Dome gives a visual indication record progress.

7. Load and play the clip in Player mode using one of the following steps:
  - In Recorder, click the **Preview** button, or
  - Drag and drop from the Recorder monitor pane to the Player monitor pane.

The play channel becomes the selected channel, and the clip is cued and ready for play.

## Using IEEE 1394 Record mode

The IEEE 1394 (FireWire) ports can be used for importing and recording media from a digital recording device that uses DV or MPEG2 format. After selecting the IEEE 1394 input for the Record channel, you can use the iDDR transport controls to control the IEEE 1394 device remotely through the 1394 connection.

**NOTE:** The rear panel port 2 (top) and the front panel 1394 port are shared. If a device is already connected to port 2 you cannot connect a device to the front panel port, or vice versa.

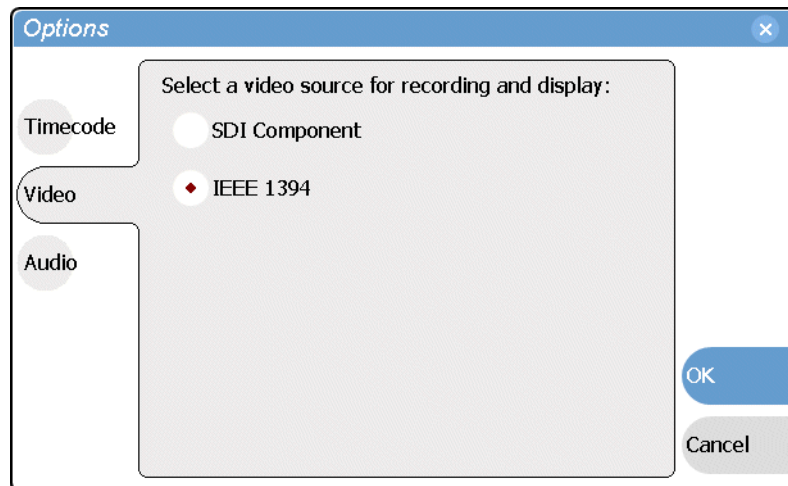
To use IEEE 1394 Record mode:

1. Connect and power-on the IEEE 1394 device.

**NOTE:** The top rear panel 1394 port and the front panel 1394 port are electrically the same. Use only one of these connectors.

2. Select the record channel and then select **Recorder | Options**.

The options dialog box opens.



3. Select **Video**, and choose **IEEE 1394**, then select **OK**.

IEEE 1394 view is displayed, and the record channel input switches to the 1394 input.

The status bar shows “Connecting to device”, then “Connected”. Initially, both the monitor pane and the thumbnail in the Recorder display shows a IEEE 1394 symbol.

Timecode from the device is also displayed in the Recorder pane. If xx:xx:xx:xx is displayed, the timecode from the device is not valid.

Use the following step to cue the IEEE 1394 device.

4. You can control the IEEE 1394 device remotely (play, rewind, fast-forward and stop) in one of the following ways:
  - Use the iDDR front panel controls (transport control buttons, Shuttle/Jog Knob).

- Use the record channel on-screen transport controls in AppCenter.
- Use iDDR keyboard shortcuts (see [Appendix A, Keyboard Shortcuts on page 281](#)).
- Select **Goto** in the Recorder pane, then use the Goto Timecode dialog box to cue to a specific timecode.



5. After positioning the cue point on the IEEE 1394 device, use one of the following methods to start recording:

- **New Clip** - See “Using New Clip record mode” on page 131.
- **Crash Record** - See “Using Crash record mode” on page 131.
- **Fixed Length** - See “Using Fixed Length record mode” on page 132.

6. Record continues until **Stop** is pressed.

Additional information about IEEE 1394 devices:

- When you start the recording, the iDDR pre-rolls the 1394 device several seconds, then starts play back prior to capturing media. This ensures the video frame cued in the channel monitor is recorded.
- There is no audio monitoring facility on the Turbo iDDR for 1394 devices. To monitor audio, use the audio monitoring features on the DV device.
- The timecode from the 1394 device is not recorded. Rather, the Turbo iDDR starts striping timecode for the clip starting at zero.
- You can play the clip while it is still recording. See “Previewing a clip that is recording” on page 137.
- Depending on the device’s native format, media captured via IEEE 1394 may require transcoding. If transcoding is required, media may not be captured in real-time.



## Previewing a clip that is recording

Preview loads the currently recording clip into a play channel. The play channel becomes the selected channel, and the clip is cued and ready for play.

To preview a clip:

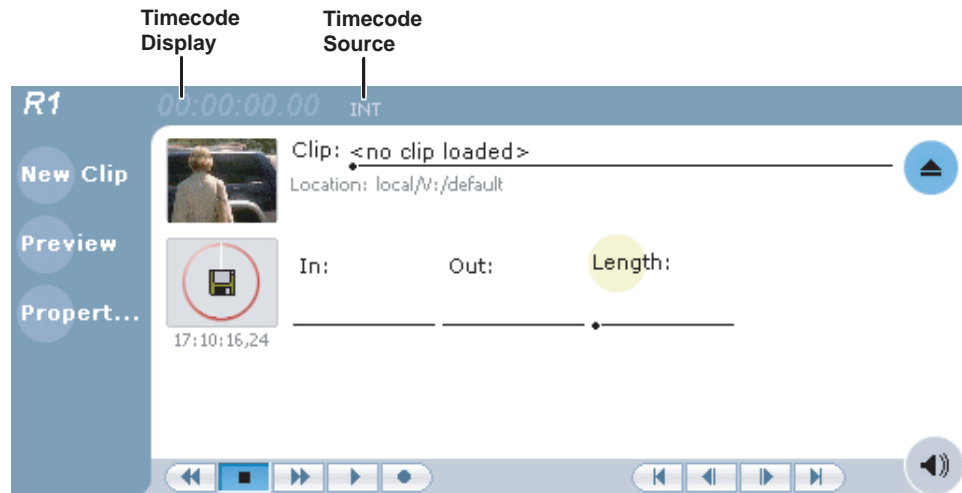
1. Start the record process.
2. Preview the clip using one of the following methods:
  - In Recorder, select the **Preview** button.
  - or -
  - In the Monitor pane, drag and drop from the Recorder monitor a Player monitor. The play channel becomes the selected channel, and the clip is cued and ready for play.

**NOTE:** If a play channel is not available, i.e. the play channels are already playing a clip, a warning message is displayed in the status bar.

3. To play the clip, select the play button on the front panel , or use the onscreen transport controls .

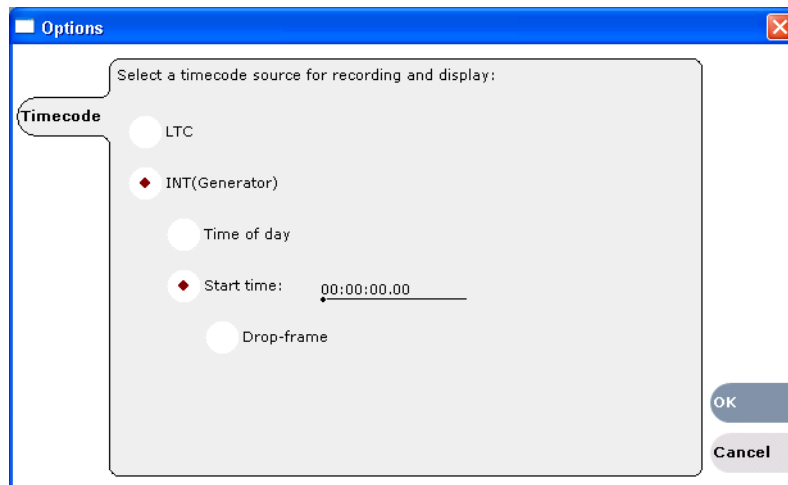
## Changing the timecode source

You can select the timecode source you want to record. You can use the internal timecode generator or the rear panel LTC input.



To change the timecode source:

1. Perform one of the following to open the options dialog box:
    - In the AppCenter main menu, click **Recorder | Options | Timecode**.
    - or -
    - In the Recorder pane, click the timecode display **16:27:13;29 LTC**.
- The Options dialog box appears.



2. Click the **Timecode** button.

3. Choose a timecode source, then click **OK**.

Timecode Source	Description
LTC	Timecode is read from the LTC input for the channel.
Generator	<p>The record channel has a timecode generator that runs in one of the following modes:</p> <p><b>Time of Day</b> The generator is locked to the Windows Operating system real time clock.</p> <p><b>Start time</b> Specifies the timecode to use when the recording starts. The drop frame option is enabled when the system timing is set to the 525 line standard. <i>Drop frame</i> timecode allows the generator to operate as an accurate clock.</p>

## Selecting widescreen mode

You must select the widescreen attribute when recording video with widescreen aspect ratio— 16:9. The attribute is saved as part of the MPEG video media file. The attribute is used by the play channel to handle aspect ratio conversion. For example, disable aspect ratio conversion if the clip is played on a channel set for widescreen display. This may occur when playing a list of clips with different aspect ratios. For more information, refer to [“About video scaling settings” on page 36](#).

## Changing the current bin

On the iDDR, a fixed amount of disk space is reserved for storing media files— the **V:/** partition. Within the **V:/** disk partition, your clips and playlists are stored in *bins* which function like directories in a file system. You can organize your media by creating and removing bins.

When recording starts, the new clip is stored in the *current bin*. You can change the current bin to determine where you want the clip stored. The current bin name is displayed under the clip name in the Recorder display, for example, **V:/default**.

**NOTE:** Changing the current bin affects the recorder and the player modes.

To change the current bin:

1. Make sure the record channel is selected.
2. In the clips pane, click the **Current Bin** label **Look in: V:/default**, then choose a bin from the list.



**Related topics:**

- [“Creating a new bin” on page 222](#)
- [“Renaming a bin” on page 223](#)

## Renaming a clip

You can rename a clip during or after recording.

To rename a clip:

1. Select the clip name control **Clip: Clip\_1** in Recorder mode.
2. Enter the new clip name using the on-screen keyboard.
3. Click **OK**, or press **Enter**.

If a clip with the new name already exists in the current bin, an error message is displayed.

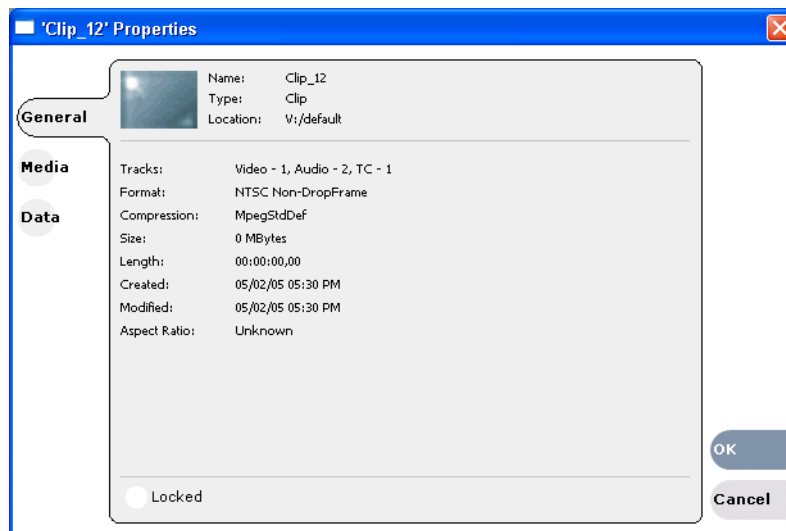
## Viewing clip properties

To view the properties of a clip loaded in Recorder mode:

In Recorder, do one of the following:

- Click the **Properties** button.
- or -
- Select **Recorder | Properties**.

**NOTE:** To learn more about the Clip Properties dialog box, [“Viewing clip properties” on page 140](#).



## Locating a clip

You can locate the currently loaded clip by displaying the contents of the current bin in the clips pane, as follows:

1. After or during recording, select **Recorder | Locate**.
2. The clips pane displays the contents of the bin where the clip is located.

## Displaying available storage space

In the Recorder pane, you can display available storage using the Time Dome.

To display available storage:

1. Select the Time Dome .

The Time Dome pop-up menu appears.

2. Choose **Available Storage** in the pop-up menu.

The Time Dome changes to display progress and available storage



Available storage displayed is based on the video data rate selected in the Configuration dialog box. (See [Chapter 2, Configuration: Turbo iDDR](#).) A filled Time Dome represents no storage remaining. Available storage is also displayed numerically under the timedome.

The white line functions as a “sweep second hand” to show record progress. It sweeps through a complete revolution every 10 seconds when crash recording or makes a single revolution on a fixed length record.

## Playing and editing clips

The information in this section describes how to play and edit clips recorded on the iDDR. You can play clips in a variety of ways including off-speed play (VAR) and triggered by GPI. In addition to editing existing clips the in and out points in existing clips, you can create new clips using the iDDR subclip feature.

Information in this section includes:

- [“About playing clips” on page 143](#)
- [“Selecting Player mode in AppCenter” on page 143](#)
- [“Guide to using Workstation Player: Control View” on page 144](#)
- [“Guide to using Workstation Player: Cue View” on page 147](#)
- [“Loading media for playout” on page 149](#)
- [“Playing a clip” on page 150](#)
- [“Selecting loop play” on page 150](#)
- [“Selecting E-to-E mode” on page 150](#)
- [“Jumping to a specific timecode” on page 151](#)

- [“Using Cue points for playback” on page 152](#)
- [“Editing a clip” on page 154](#)
- [“Creating Subclips” on page 158](#)
- [“Locating the clip loaded in player” on page 161](#)
- [“Viewing clip properties” on page 161](#)

## About playing clips

The AppCenter Workstation Player mode allows you to play media stored on the iDDR, including clips and programs. The Player mode requires a single play channel. Player mode has two views—Control View and Cue View. The Control View allows you to play clips, trim clips, and create new subclips. The Cue View is used to add cue points within a clip. After adding cue points, you can use the cue list to start playback from any cue point in the list.

### Working with clips that are still recording

The following restrictions apply when working with a clip in Player mode that is currently recording:

- You cannot rename the clip.
- The clip mark-in/mark-out points cannot be modified.
- Subclips created from a clip currently being recorded can only have a Mark Out equal to the last frame that has been recorded when the subclip is created. You cannot create a clip longer than has been recorded under the assumption that the unrecorded frames will “fill it in”.

Otherwise, clips that are currently being recorded behave normally. As a reminder, “Read-Only” is displayed in the StatusBar when the clip loaded or playing is still being recorded.

### Playing a playlist saved as a program

Playlists cannot be loaded and played in Player mode. They must be played in Playlist mode. However, you can save a playlist as a program and then play it in Player mode. A *program* includes all the media and transitions in the playlist, but does not include any event that breaks the flow of playout, such as, a pause. When a program is loaded in Player mode, it is handled in the same way as a simple clip as far as Player mode is concerned. For more information on creating programs refer to [“Saving a list as a program” on page 195](#).

## Selecting Player mode in AppCenter

Player mode requires a single play channel. If the play channel is currently being used in another mode, you can use the following steps to select the Player mode. Selecting Player mode causes the play channel operation to stop, then Player mode is started.

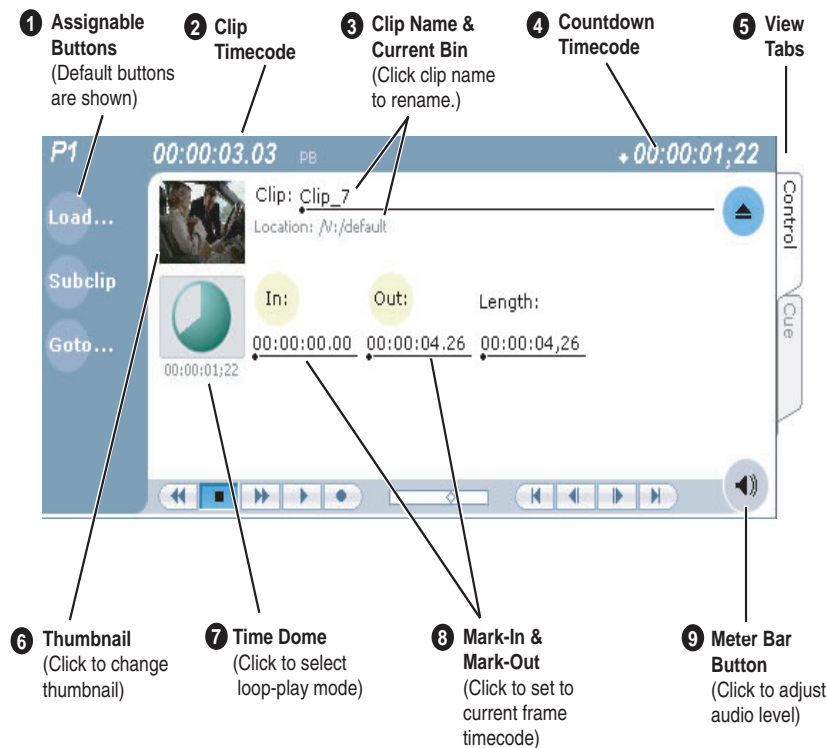
To start Player mode on a play channel:

1. If the channel pane is not already in split screen view, select **View | Split Screen**.
2. In the monitor pane, select the control mode drop-down list for the play channel, then choose **Player**.

The channel switches to Player mode and becomes the selected channel.






## Guide to using Workstation Player: Control View

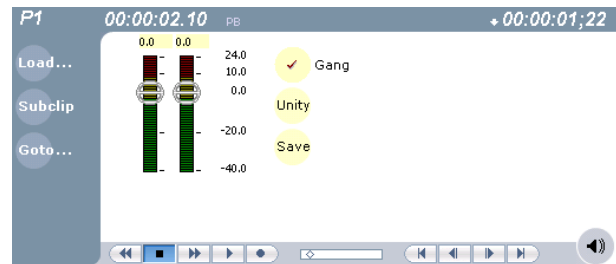
The Control view allows you to play a clip, modify its name, adjust mark in and mark out points, create sub-clips, and stripe timecode. Selecting the **Control** view tab shows the Control view. The following describes the essential controls in the Control view.



Control	Description and User Operation
<b>1 Assignable Buttons</b>	Assignable buttons allow you to modify the button assignments to best suit your workflow. Right-click a button to open a pop-up menu which lists the alternative button choices.
<b>2 Clip Timecode</b> 	Indicates the recorded timecode of the current frame being played. The timecode value of XX:XX:XX:XX is displayed when there is no recorded timecode. Stop mode is indicated by 'PB' (Play Back), or 'EE' (E to E). Refer to <a href="#">“Selecting E-to-E mode” on page 150</a> for more information on these stop modes.
<b>3 Clip Name &amp; Current Bin</b> Clip: <u>Clip_1</u> Location: /V:/default	Displays the clip's name and location in the video storage file system. To rename the clip, click the Clip Name, then enter a new name. See <a href="#">“Renaming a clip in player mode” on page 158</a> .
<b>4 Countdown Timecode</b> 	Displays the time remaining in the clip To select the countdown mode you want to monitor, open the Options dialog box by selecting Options in the Player menu.



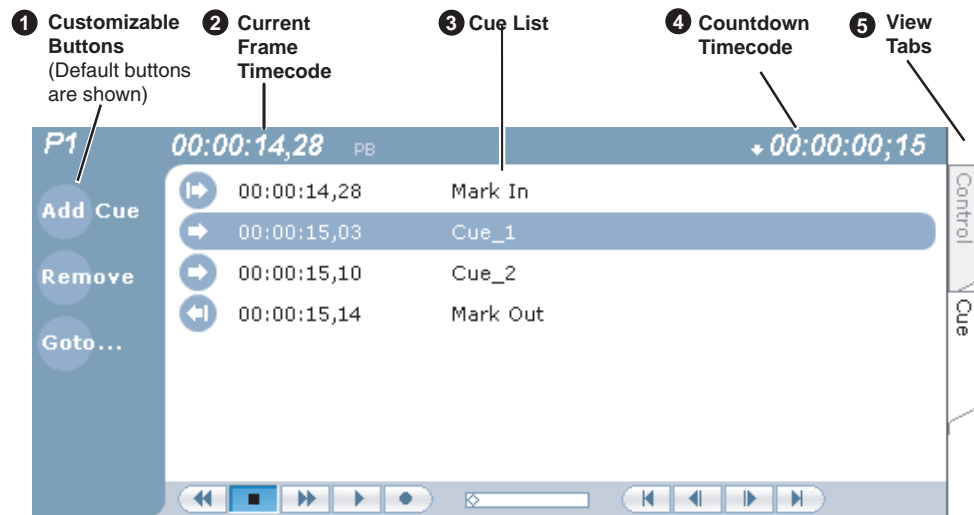
Control	Description and User Operation
<b>5 View tabs</b> 	<p>These tabs toggle between Control and Cue views. Control is used for playing and editing of clips. During playback, you can use the Cue view to add cue points so that you can quickly cue a clip to a frame.</p>
<b>6 Thumbnail</b> 	<p>Used to visually identify the clip. By default, the thumbnail is generated using the 16th frame of video. To change the thumbnail, position the clip to the desired frame, then click the thumbnail. See <a href="#">“Changing the clip thumbnail image” on page 157</a>.</p>
<b>7 Time Dome</b> 	<p>This multi-function control displays play progress, or play progress with media marks which shows the relative position of mark-in/ mark-out points in the clip. The timecode underneath indicates play time remaining. The Time Dome is also used to enable loop play. Select the Time Dome, then use the pop-up menu to choose the display mode, or to control loop play mode. See <a href="#">“Selecting loop play” on page 150</a>.</p>
<b>8 Set Mark-in and Set Mark-out</b> 	<p>These buttons are used to set new mark-in or mark-out points. Position the clip to the desired frame, then click the In or Out buttons. Unused media is not deleted. To clear a mark, right-click the button, then choose Clear Mark in the pop-up menu. Marks are reset to the beginning or end of available media. See <a href="#">“Editing a clip” on page 154</a>.</p>
<b>9 Meter Bar Button</b> 	<p>Displays the Meterbar which contains the audio play level controls and signal meters. Clicking the <b>Save</b> button saves changes made to the clip audio level. Clicking <b>Unity</b> returns the audio levels to the last saved level.</p>

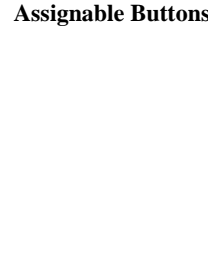

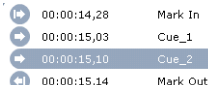



Control	Description and User Operation
<div><div>Player Menu - Control View</div><div><div>Player</div><div><div>Load...</div><div>Subclip</div><div>Goto...</div><div>Stripe Timecode</div><div>Properties</div></div><div><div>Auto Subclips</div><div>E-to-E</div></div></div></div>	<p><b>Load</b> – Select to open the Load Clip dialog which displays the contents of the current bin. Select a clip, then choose OK to load. <a href="#">See “Loading media for playout” on page 149.</a></p> <p><b>Subclip</b> – Opens the Subclip mode which allows you to create subclips from the currently loaded clip. A subclip is an entirely new clip that references media in another clip. <a href="#">See “Creating Subclips” on page 158.</a></p> <p><b>Goto</b> – Used to jump to a specific timecode. Select Goto, to open the Goto dialog, then enter a timecode value or use the scrub bar to go to the desired position. <a href="#">See “Jumping to a specific timecode” on page 151.</a></p> <p><b>Stripe Timecode</b>– Opens the Stripe Timecode dialog which allows you to replace the existing timecode track for the loaded clip. You can replace with time of day, or a specific start timecode. <a href="#">See “Striping timecode (replacing the timecode track)” on page 157.</a></p> <p><b>Properties</b> – Opens the Properties dialog for the currently loaded clip. <a href="#">See “Viewing clip properties” on page 161.</a></p> <p><b>Auto Subclips</b>– The auto subclip check box changes the way that the subclip mode behaves. When it is NOT checked, clips have to be accepted manually. When it is checked, a subclip will be created as soon as the user sets a mark out. <a href="#">See “About Auto Subclip mode” on page 160.</a></p> <p><b>E-to-E</b> – When E-to-E mode is enabled the output video and audio switches to the record channel input when the play channel is stopped or when no clip is loaded,. If E-to-E is disabled, the output freezes on the last frame of video. <a href="#">See “Selecting E-to-E mode” on page 150.</a></p>

## Guide to using Workstation Player: Cue View

The Player mode Cue view is used to add cue points to the a clip. The Cue View allows you to set, modify, and jump to cue points on the loaded clip. Clicking the **Cue** tab displays the Cue view. The following describes the basic controls in the Cue view.



Control	Description and User Operation
<b>1 Assignable Buttons</b> 	<p>Assignable buttons allow you to modify the button assignments to best suit your workflow. Right-click a button to open a pop-up menu which lists the alternative button choices.</p> <p><b>Add Cue</b> – same as selecting “Add Cue” from the Player menu.</p> <p><b>Remove</b> – removes the selected cue.</p> <p><b>Goto</b> – used to jump to the selected cue, the next cue, or to a specific timecode. See “Jumping to a specific timecode” on page 151.</p> <p><b>Rename</b> - opens text entry dialog box to rename the selected cue.</p> <p><b>Create Clip</b> - same as selecting “Create Clip” from the Player menu. See “Creating subclips in Cue view” on page 160.</p> <p><b>Create All</b> - same as selecting “Create All Clips” from the Player menu. See “Creating subclips in Cue view” on page 160.</p> <p><b>Cue Selection</b> – cues the first selected cue point for playback showing a still frame of video for the cue point. See “Jump to the selected cue point” on page 153.</p>
<b>2 Current Frame Timecode</b> 	<p>Indicates the recorded timecode of the current frame being played. The timecode value of XX:XX:XX:XX is displayed when there is no recorded timecode.</p>
<b>3 Cue List</b> 	<p>Displays a list of cue points that are set for the loaded clip. Cue points are listed in chronological order beginning with the mark-in point and ending with the mark-out point.</p>
<b>4 Countdown Timecode</b> 	<p>Displays the time remaining in the clip. To select the countdown mode you want to monitor, open the Options dialog box by selecting Options in the context menu.</p>

Control	Description and User Operation
<div><div>5</div><div><div>View tabs</div><div><div>Control</div><div>Cue</div></div></div></div>	These tabs toggle between Control View and Cue Points view.

## Loading media for playout

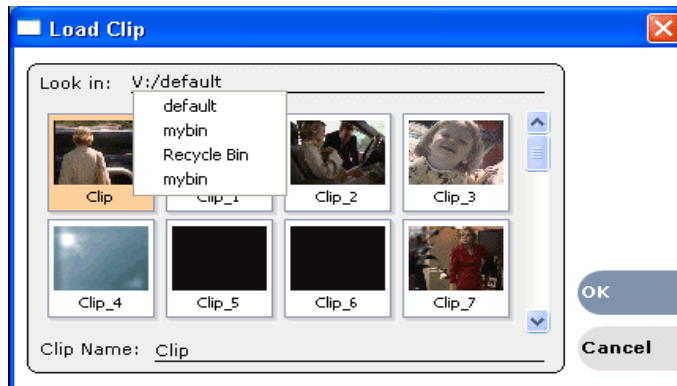
You can load clips or programs in the play display for playout.

### Loading clips from the clips pane

1. Select a play channel by clicking in the channel's monitor pane.
2. Locate the clip in the clips pane. If necessary, change bins by clicking the current bin control **Look in:** `V:/default` and selecting from the drop-down list.
3. Load the clip in one of the following ways:
  - Drag the clip from the clips pane into the play channel.
  - Select the clip, then choose the **Load** button in the clips pane.
  - Double-click on the clip.
  - Select the clip, then press **Enter** on the keyboard.

### Loading a clip from Player mode

1. Select a play channel by clicking in the channel's monitor pane.
2. Open the Load Clip dialog using one of the following:
  - Click the **Load** button in Player.
  - Select **Player | Load**.



3. If needed, use the **Look in** drop-down list to browse to the desired bin.
4. Select a clip in the Load Clip dialog, then click **OK**.

The clip is loaded in the player.

**NOTE:** If play channel E to E mode is enabled, play channel standard definition outputs are switched to the record channel input until playout is started. Refer to [“Selecting E-to-E mode” on page 150](#).

### Related topics:

- [“Playing a clip” on page 150](#).
- [“Using Cue points for playback” on page 152](#)


## Playing a clip

Once a clip is loaded in Player mode, you can play the clip or search for a specific frame of video using the transport controls. Use the links in the following table to find information on playing clips.

If you are using...	Refer to...
Front Panel controls	<a href="#">“Using the front panel controls” on page 51</a>
On-screen transport controls	<a href="#">“Using on-screen transport controls” on page 124</a>
Keyboard shortcuts	<a href="#">Appendix A, Keyboard Shortcuts on page 281</a>
GPI input triggers	<a href="#">“Setting GPI input triggers” on page 43</a>

## Selecting loop play

Loop play allows the clip to play in a continuous loop until **Stop** is pressed. The Time Dome is used to enable/disable loop play.

- Click the **Time Dome** , then choose **Loop Mode** in the pop-up menu.

## Selecting E-to-E mode

In E-to-E mode, the record channel inputs are switched to the play channel audio and video outputs (standard definition) when the play channel is in stop mode or when no clip is loaded. This allows you to monitor the record channel inputs while recording.

### To enable E-to-E mode:

- In the AppCenter Workstation main menu, select **Player** then **E-to-E**.

The following table describes play channel operation depending on the E-to-E selection.

E-to-E Setting	Play channel mode	Play channel output
E-to-E Disabled	Play, FF, Rewind	Show clip
	Stop	Show clip
	Eject	Show black
E-to-E Enabled	Play, FF, Rewind	Show clip
	Stop	Show input <sup>a</sup> .
	Eject	Show input <sup>a</sup> .

<sup>a</sup>. Output is black if no video input is connected to **R1**. DVI-I output does not support E-to-E.

### E-to-E considerations

When E-to-E mode is enabled, you can connect an external reference signal which is synchronous to the video input. This will eliminate artifacts on the play channel output (periodic vertical shift) due to routing an asynchronous signal through the iDDR. However, this is not required for recording, the iDDR can record asynchronous signals.

**NOTE:** E-to-E is provided for monitoring the record channel, and is not intended as a program switch.

## Jumping to a specific timecode

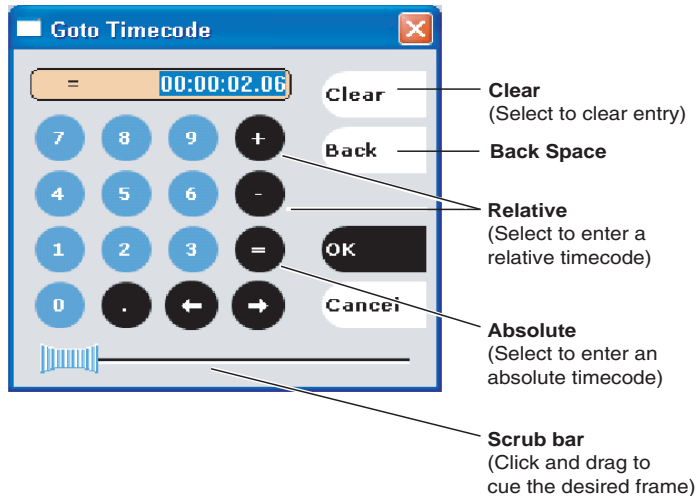
The Goto dialog box allows the player mode to jump to the specific clip timecode that you enter. You can enter an absolute timecode value based on recorded timecode, or a relative timecode value, that is, cue the video to a point +/- some value relative the current frame. If you don't know the timecode value of the frame you want, you can click and drag the scrub bar to shuttle to the desired frame.

To jump to a specific timecode:


1. With a clip loaded in Player mode, do one of the following:

- Click the **Goto** button.
- Select **Player | Goto**.

The Goto Timecode dialog appears.



2. Perform one of the following:

- Enter a *relative* timecode value, select the '+ or -' key, enter timecode, then click **OK**.
- Enter an *absolute* timecode value, select the '=' key, enter timecode, then click **OK**.
- Click and drag the scrub bar  to cue the desired frame.

**Related topics:**

- [“Loading clips from the clips pane” on page 149](#)
- [“Loading a clip from Player mode” on page 149](#)
- [“Playing a clip” on page 150](#)

## Using Cue points for playback

Cue view allows you to add cue points to a clip. You can use cue points to manage clip play out or create subclips. The following sections describe how to work with cue points.

Topics included here:

- [“About using cue points” on page 152](#)
- [“Viewing the cue list” on page 153](#)
- [“Adding a cue point” on page 153](#)
- [“Removing a cue point” on page 153](#)
- [“Jump to the selected cue point” on page 153](#)
- [“Jump to the next cue point” on page 154](#)
- [“Renaming a cue point” on page 154](#)

### About using cue points

When you select Cue View, a chronological list of cue points is displayed. The list begins with the mark-in point and ends with the mark-out point. You can add additional cue points to mark other frames within the clip. You can add cue points while the clip is playing or in stop mode. When you add a cue point, it is listed by a default name (such as “cue\_1”) and timecode value.

Cue points cannot be moved, however, you can remove a cue point and use the transport controls, or Goto Timecode dialog box to enter a new cue point at the current position.

Cue points can be used to:

- **Manage clip playout**– jump to the selected cue or next cue.
- **Create subclips**– You can create a subclip from the selected cue point. The selected cue point becomes the mark-in point, while the mark-out point is the same as the source clip. If more than one cue point is selected, a subclip is created using the first and last cue points. The “Create All” feature creates a subclip for every cue in the list. Each subclip duration is from each cue point to the source clip mark-out point. [See “Creating subclips in Cue view” on page 160.](#)

When working with cue points, keep these considerations in mind:



- **Cue points are retained when a clip is copied or transferred**– Cue points are stored with the clip. All the cue points of the original clip are retained when the clip is copied or transferred to another iDDR.
- **Cue points and trimming**– After you trim a clip by moving the mark-in or mark-out points, the cue points outside the new mark-in and mark-out points are



cleared and must be reinserted.

- **Cue points and subclips**– Subclips created from a clip with cue points retain all cue points that fall between the marks of the new subclip. The subclip has its own mark in and mark out points. See [“Creating subclips in Cue view” on page 160](#).
- **Cue points and programs**– Cue points cannot be added to a program.

## Viewing the cue list

1. Select a play channel by clicking in the channel’s monitor pane or by using the front panel button  or .

2. Select the Cue tab.

The Cue view appears showing the cue list for the clip loaded in Player mode. Initially, only the mark-in and mark-out cue points are listed.

## Adding a cue point

While the clip is playing, or in the stop mode, use the [transport controls](#) to find the desired frame in the clip, then do one of the following:

- Click the **Add Cue** button.
- Select **Player | Add Cue**.

A cue point is added to the cue list using a unique name, e.g. Cue\_1.

**NOTE:** Using the iDDR preview feature, you can play and add cue points to a clip while it is still being recorded. (See [“Previewing a clip that is recording” on page 137](#).)

### Related topics

- [“Jump to the next cue point” on page 154](#)
- [“Removing a cue point” on page 153](#)

## Removing a cue point

1. In Cue view, select a cue point in the list.
2. Do one of the following:
  - Click the **Remove** button, or
  - Select **Player | Remove**.

## Jump to the selected cue point

Use the following steps to jump to the selected cue point.

1. In Cue view, select a cue point in the list.
2. Do one of the following:
  - Click the **Cue Selection** button, if you have one, or
  - Select **Player | Cue Selection**, or

- Click the **Goto** button, then select **Selection**.
3. Press the **Play** button on the front panel or use the onscreen transport controls  
Playout starts from the cued frame.

### Jump to the next cue point

Use the following steps to jump to the next cue point. Depending on the current play position, the clip will cue to the next cue point in the clip.

1. In Cue view, do one of the following:
  - Click the **Next Cue** button, or
  - Click the **Goto** button, then select **Next Cue**.
2. Press the **Play** button on the front panel or use the onscreen transport controls.  
Playout starts from the cued frame.

### Renaming a cue point

1. In Cue view, select a cue point in the list.
2. Select **Player | Rename**.
3. Use the text entry dialog to enter a new cue name, then click **OK** or press **Enter**.

### Editing a clip

Topics in this section are as follows:

- [“Moving clip mark-in/mark-out points” on page 154](#)
- [“Clearing mark-in/mark-out points” on page 156](#)
- [“Adjusting clip audio level” on page 156](#)
- [“Changing the clip thumbnail image” on page 157](#)
- [“Striping timecode \(replacing the timecode track\)” on page 157](#)
- [“Renaming a clip in player mode” on page 158](#)

### Moving clip mark-in/mark-out points

Every clip has a mark-in point and a mark-out point which refer to the first and last frames displayed when the clip is played. When first recorded, clip marks are set to the beginning and end of available media. You can edit the clip marks in order to reference only the desired media. When clip marks are moved, the unused media *is not deleted*. Clearing the marks resets the them to the first and last frames of the recorded clip. (See also [“Clearing mark-in/mark-out points” on page 156](#).)

The following restrictions apply when editing clip marks:

- Mark-in must precede the mark-out
- Marks cannot be set outside the recorded media
- Marks cannot be changed on a clip that is still being recorded.



**NOTE:** If more media exists after the current mark, a <<< or >>> symbol is displayed beneath the In/Out timecode. To permanently remove media outside the marks, refer to [“Erasing a clip's unused media” on page 228](#).

**NOTE:** If more media exists after the current mark, a <<< or >>> symbol is displayed beneath the In/Out timecode. To permanently remove media outside the marks, refer to [“Erasing a clip's unused media” on page 228](#).


To move clip marks, load the clip in player, then use one of the following methods.

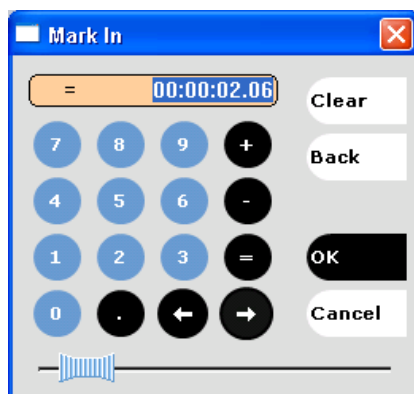
- [“Moving clip marks: Using the In/Out buttons” on page 155](#)
- [“Moving clip marks: Using the timecode entry controls” on page 155](#)
- [“Moving clip marks: Using the clip length control” on page 155](#)

#### Moving clip marks: Using the In/Out buttons


1. Use the transport controls to locate the desired frame.
2. In Control view, click **In**  to set mark-in point, or click **Out**  to set mark-out point.
3. In the Confirm Mark Change window, click **Yes**.

#### Moving clip marks: Using the timecode entry controls

1. In Control view, select the mark-in or mark-out [timecode control](#)  to open the timecode entry dialog box.



2. Enter a timecode value, then click **OK** or press **Enter**.

Alternatively: Use the current position scrub bar  in the timecode entry dialog box to locate the desired frame, then select **OK**.

#### Moving clip marks: Using the clip length control

Entering a new clip length moves the mark-out point.

1. Click the **Length** [timecode entry control](#).
2. Enter a new clip length and click **OK**.

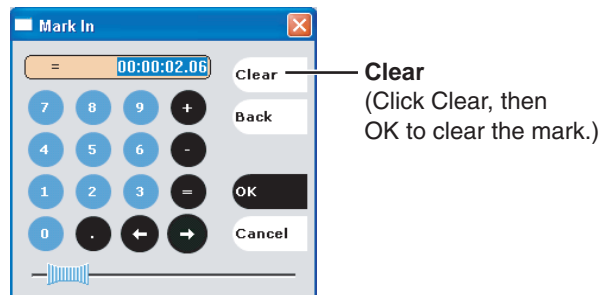
The clip length changes by moving the mark-out point.

## Clearing mark-in/mark-out points

Clearing a mark point resets the mark to its default position— mark-in is set to the beginning of available media; mark-out is set to the last frame of available media.

To clear a mark point, do one of the following:


- In Play view, click and hold the **In** or **Out** button, then choose **Clear Mark** in the pop-up menu.
- In Play view, select the mark-in or the mark-out **timecode control** and click **Clear**, then **OK** to clear the mark.

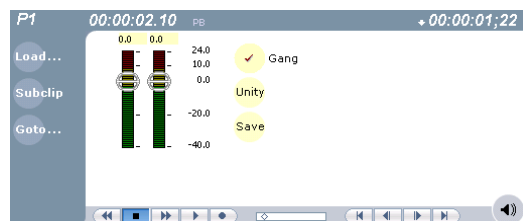


## Adjusting clip audio level

The audio meter display provides audio level adjustment for clips loaded in the player display. If the clip loaded was recording using Dolby digital audio (AC3), the audio gain adjustments are disabled.

To adjust audio level;

1. In Player mode, click the Meterbar button .
2. Adjust the audio level in one of the following ways:
  - Adjust the graphical faders individually or “ganged” which insures both channels use the same gain.
  - Click **Unity** to set audio back to the last saved level.



3. Click **Save** to save changes to the clip audio level.

**NOTE:** Saved audio levels are used every time the clip is loaded and played. Unsaved changes are lost when the clip is ejected.

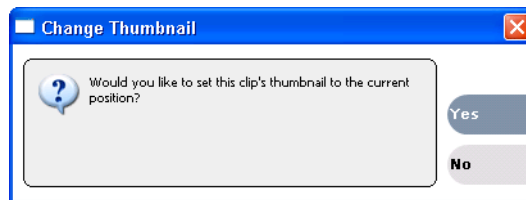
4. Click the Meterbar button  again to return to Player mode.

## Changing the clip thumbnail image

The clip thumbnail is displayed in AppCenter for visual identification of the clip. By default, the 16th frame is used to generate the thumbnail image.

To change the clip thumbnail:

1. While monitoring the play channel output, use the front panel or onscreen transport controls to position the clip to the desired video frame.
2. In Player, select the thumbnail, then click **Yes** in the Change Thumbnail dialog box.



**NOTE:** If clip marks are edited so that the video frame used to generate the thumbnail is outside the new clip marks, the thumbnail is reset to a position near the mark-in of the modified clip.

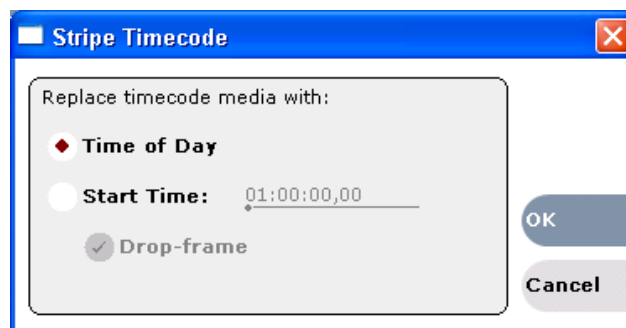
To reset the thumbnail:

- Select the thumbnail image, then choose **Reset** in the pop-up menu.  
This resets the clip thumbnail to the 16th frame in the clip.

## Striping timecode (replacing the timecode track)

The stripe timecode dialog allows you to overwrite the existing timecode track for the loaded clip. You can replace the recorded timecode with time of day, or a specific start timecode value.

1. Load the clip in the a play channel.
2. In **Control view**, select **Player | Stripe Timecode**. The Stripe Timecode dialog box opens.



3. Specify the replacement timecode:

**Time of Day** – The new timecode track will start with the current time of day and will contain continuous values ranging from the current time of day plus the length

of the clip.

**Fixed Time** – After choosing this option, select the [timecode entry control](#), and enter a start timecode value. The new timecode track will contain continuous values ranging from the specified starting value to the starting value plus the length of the clip.

**Drop frame** – The drop frame option is available when system timing is set to 525 line standard. Drop frame allows the timecode track to indicate the actual running time of the clip.

### Renaming a clip in player mode

1. In the Control view, select the [clip name control](#) Clip: Clip\_1.
2. Enter the new clip name.
3. Click **OK**, or press **Enter**.

### Creating Subclips

A subclip is a clip created by referencing a portion of media from another clip. For example, if you recorded a two hour clip, you could create several short subclips to use as previews or advertisements. Each subclip refers to a small portion of the original clip and is listed along with all other clips in the clips pane. When working with subclips, the original clip is sometimes called the *source clip*. After creating subclips, you can delete the source clip.

Subclips created from a clip that is still recording can only have a mark-out equal to the last frame that has been recorded when the subclip is created. You cannot create a subclip longer than what has been recorded with the assumption the media will “fill in”. You can create subclips from a clip being recorded in loop record mode. In loop record mode, media referenced by the subclips is retained while unreferenced media is discarded.

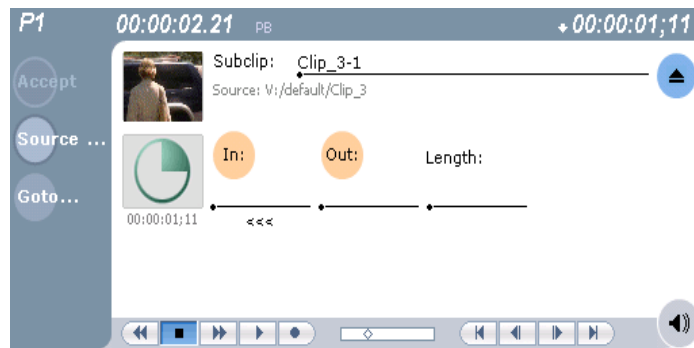
You can load subclips in the Control view and edit the mark-in/mark-out points the same as a clip, provided the unreferenced source media has not been erased. If the source media has been erased, the subclip retains 1 second of media on each side of the mark-in and mark-out points. See [“Moving clip mark-in/mark-out points” on page 154](#).

The following sections describe how to create subclips:

- [“Creating Subclips” on page 158](#)
- [“About Auto Subclip mode” on page 160](#)
- [“Creating subclips in Cue view” on page 160](#)

### To create subclips

1. Load a clip in the player.
2. In the [Player Control view](#), click the **Subclip** button.



The Subclip display appears with a new subclip loaded. The **In** and **Out** buttons are flashing indicating no mark-in or mark-out points are defined. The default subclip name follows the form <source clip name>-<number>, for example, if the source clip name is *PlayoffGame*, the subclip name is *PlayoffGame-1*.

3. To rename the subclip, click the **subclip name control** Subclip: **PlayoffGame**, and enter the new name in the Clip Name dialog, then click **OK**, or press **Enter**.

Renaming the subclip creates a new seed name. For example, if you rename the subclip *PlayoffGame-1* to *Highlight*, subsequent subclips created are named *Highlight-1*, *Highlight-2*, and so on.

4. Enter the subclip marks as follows:
  - a. Using the transport controls, position the clip to the desired frame for mark-in, then click the **In** button.
  - b. Using the transport controls, position the clip to the desired frame for mark-out, then click the **Out** button.

Alternatively: Select the mark-in or mark-out **timecode entry controls** and enter a specific timecode value.

Alternatively: Select the **Length timecode entry control** and enter a clip length, then create either a mark-in or a mark-out point.

5. In Subclip view, click **Accept**.

The subclip is saved and ejected, then Player returns to Subclip view with a new subclip name loaded.

**NOTE:** If the **Accept** button does not flash, but instead the clip is saved and a new subclip is loaded, the iDDR is in Auto-subclip mode. See “About Auto Subclip mode” on page 160.

**NOTE:** Clicking the **Source Clip** button or the **Eject** button prior to pressing the **Accept** button closes Subclip mode without creating a new clip. Both of these buttons are used to exit Subclip mode.

### About Auto Subclip mode

The Auto-Subclip feature changes the way that the subclip mode behaves. Auto Subclip mode eliminates the “Accept” step in the subclip procedure. In Auto-Subclip mode, you simply set mark-in, then set mark-out. On setting mark-out, the subclip is ***automatically generated and ejected***, and a new subclip name is loaded in the Subclip display.

Auto Subclip mode is useful when you want to create subclips while a source clip is playing. You simply load a clip, press play, then create subclips by selecting In, Out, In, Out, etc.

To enable Auto Subclip mode:

- In the [Player mode Control View](#), click **Player | Auto Subclips**.

### Creating subclips in Cue view

In Cue view, you can automatically create a subclip from the selected cue point. The selected cue point becomes the mark-in point, while the mark-out point is the same as the source clip. If more than one cue point is selected, a subclip is created using the first and last cue points. This feature allows you to manage the media of interest as a separate clip rather than media between cue points in a clip. For example, once you’ve made a subclip, it can be added to a playlist.

By default, subclips generated from the cue list are given names of the format *<clip name>-<first cue name>*. For example, a subclip generated from a cue point named “cue\_1” in a clip named “MyClip” is named “MyClip-cue\_1”. If a clip already exists with this name, you are prompted to enter a unique name.

To create a subclip from media between two selected cue points:

1. Select two cue points in the cue point list.
2. Click **Player | Create Clip**.

To create a subclip using a selected cue point as mark-in:

1. Select the cue point to use as the mark-in for the new clip.
2. Click **Player | Create Clip**.

The subclip is terminated by the source clip mark-out point.

To create a subclip for all cue points:

- Click **Player | Create All**.

In some cases, a progress dialog is displayed as the clips are generated.

Each subclip is terminated using the mark-out of the source clip.



## Locating the clip loaded in player

You can determine where the currently loaded clip is stored in the media file system using the locate command.

To locate the currently loaded clip:

- Select **Player | Locate**.

The Clips pane opens and displays the contents of the bin where the clip is located.

## Viewing clip properties

To view the properties of a clip loaded in Player:

- Click the **Properties** button.
- or -
- Select **Player | Properties**.

**NOTE:** To learn more about the Clip Properties dialog box, [“Viewing clip properties” on page 242](#).

## Working with playlists

Information in this section includes:

- [“Introducing Playlist mode” on page 163](#)
- [“Before using Playlist mode” on page 164](#)
- [“Selecting Playlist mode” on page 167](#)
- [“Guide to using Playlist mode: List View” on page 167](#)
- [“Guide to using Playlist mode: Event View” on page 170](#)
- [“Selecting Text or Thumbnail view” on page 173](#)
- [“Selecting monitor information” on page 173](#)
- [“Creating a simple playlist” on page 174](#)
- [“Inserting media in a playlist” on page 174](#)
- [“Playing a list” on page 177](#)
- [“Editing and rearranging events in a playlist” on page 178](#)
- [“Managing sections in a list” on page 183](#)
- [“Adding play effects” on page 185](#)
- [“Adding GPI output triggers to playlists” on page 190](#)
- [“Managing playlists” on page 191](#)
- [“Saving a list as a program” on page 195](#)

## Introducing Playlist mode

In addition to playing single a single clip, the iDDR play channels can also play lists that contain clips and programs stored on the iDDR. Playlist mode is supported in both front panel and workstation operating modes, however, workstation operation extends the playlist features available.

The following table summarizes and compares the basic features supported in playlist mode for both front panel and workstation operation.

Basic Feature	Description	Availability	
		Front Panel Mode	Workstation Mode
<b>Editing playlists</b>	Events in a playlist can be rearranged or removed, and new events added between existing ones.	✓	✓
<b>Editing events in the list</b>	Events can be renamed and trimmed. Trimming an event moves the mark-in and mark-out points. This only affects the event, not the source clip.		✓
<b>Event transitions</b>	Transitions between all events in a list is a cut, i.e. the last frame of an event is followed by the first frame of the next event.	✓	✓
<b>Loop on a section<sup>a</sup></b>	Sections are provided within the list to provide flexibility during playout. A section can be set up to loop indefinitely. The section can be taken out of the loop by manual intervention.		✓
<b>Loop on a list</b>	Lists can be set up to loop indefinitely. The list can be taken out of the loop by manual intervention— stop or goto.	✓	✓
<b>Pause at the end of events</b>	Events can pause playout at their end. At event pauses, you can choose to show black, show E-to-E, freeze on last frame, or freeze on next event.	✓	✓
<b>Pause at the end of sections<sup>a</sup></b>	Sections can pause playout at their end. At section pauses, you can choose to show black, show E-to-E, freeze on last frame, or freeze on next event.		✓
<b>Saving a playlist as a <a href="#">program</a></b>	Playlists can be saved as a <a href="#">program</a> . This saves the media and transitions, but nothing that breaks the flow of playout, such as pauses. In both front panel and workstation operation, you can insert a program into a playlist, or play a program in the standard player mode.		✓
<b>GPI output triggers</b>	The iDDR provides 6 GPI output signals through a rear panel connector for controlling external equipment. You can configure events in a playlist to trigger GPI outputs. A GPI trigger does not disrupt playout of the play events. GPI triggers can be set to occur at the beginning or end of an event or section, or at these points with some offset.	✓	✓

Basic Feature	Description	Availability	
		Front Panel Mode	Workstation Mode
<b>GPI Input triggers</b>	You can assign any of the 6 GPI inputs to control one or more play channels and the action you want the iDDR channel(s) to take— play, VAR play, cue next event, or cue next section, etc. AppCenter Workstation includes more extensive GPI output trigger features. See <a href="#">“Adding GPI output triggers to playlists”</a> on page 190.	✓	✓

<sup>a</sup>. Front panel playlist mode supports this feature for playlists created in workstation mode.

## Before using Playlist mode

Read the following sections before using Playlist mode.

- [“Terms used in Playlist mode”](#) on page 164
- [“Symbols used in Playlist mode”](#) on page 165
- [“Working with programs”](#) on page 165
- [“Using mixed aspect ratios in a playlist”](#) on page 166
- [“Inserting a clip that is still recording”](#) on page 166
- [“Inserting a playlist in a playlist \(workarounds\)”](#) on page 166







## Terms used in Playlist mode

The following terms are used in the Playlist mode.

Term	Definition
Playlist	A list is a sequence of events.
Event	Events are the components that make up a list. Events are created by adding a clip or program to sections in a list.
Section	Playlists created in Workstation operating mode contain at least one section. All events in a playlist are contained in sections. Sections have properties that include repeat and pause. A playlist can have up to 100 sections. Each section can contain up to 1000 events.  <i><b>NOTE:</b> Playlists created in Front Panel mode do not have sections; however, when playlists created in Workstation mode are played in front panel mode, section properties are used for playout just as they would in workstation mode.</i>
Source Clip	The clip inserted in a list to create a play event.
Program	Playlists can be saved as a program in iDDR Workstation mode. Programs created from a playlist include all the media and transitions in the playlist, but nothing that breaks the flow of playout, such as a pause at the end of an event. Programs are also created from the loop record mode.

## Symbols used in Playlist mode

The following table describes the symbols used in the Playlist List view to describe the properties of items in the list— play events, sections, and the list itself.


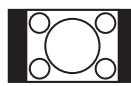


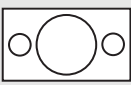



Symbol	Description
	<b>Locked</b> The item is locked and cannot be edited.
	<b>Pause</b> At the end of playout, this item will cause playout to pause.
	<b>Loop</b> At the end of playout, the item will repeat.
	<b>GPI Output Trigger</b> This event or section triggers one or more GPI outputs.
	<b>Up arrow</b> Event resolution does not match the play channel video output type. The event will be up-converted on play.
	<b>Down arrow</b> Event resolution does not match the play channel video output type. Event will be down-converted on play.

## Working with programs

A **program** is a clip generated from a playlist using the **Save As Program** feature in the Playlist mode. A program includes all the media in the playlist, but does not include any event that breaks the flow of playout such as a pauses between events. You can insert programs into other playlists as an event, or load and play them using the standard Player mode. You can also send a program to a file or a video network stream.

### Using mixed aspect ratios in a playlist

The iDDR can play clips with different aspect ratios in a single playlist. How the media is displayed is determined by the play channel widescreen setting and clip aspect ratio. The play channel determines the clip aspect ratio by examining the clip aspect ratio attribute set when the clip was recorded. The following table describes how the iDDR displays mixed aspect ratios. (See also [“Video scaling considerations” on page 37](#)).

Event Aspect Ratio	Play Channel Widescreen Setting	
	Standard (4:3)	Widescreen (16:9)
Standard (4:3) 	No conversion	Bars (Pillarbox)  Bars & Crop (Half-Pillarbox)  Crop (zoom) 
Widescreen (16:9) 	Bars (Letterbox)  Bars & Crop (Half-letterbox)  Crop 	No conversion

### Using mixed video resolutions in a single playlist

Playlists can contain events with different video resolutions. When the list is played, the media is up-converted or down-converted as needed to match the play channel video output type selected. See also [“Video scaling considerations” on page 37](#).

**NOTE:** The transition between events with different resolutions takes approximately 1 second. During this time, play channel output is switched to black.

### Inserting a clip that is still recording

Clips that are currently recording behave as other clips do in a list except for the following restriction:

- The event-out timecode is set to the last recorded frame at the time the clip is inserted in List view, or created in Event view. You can move the event-out timecode as needed while the clip is still recording or after record is stopped.

### Inserting a playlist in a playlist (workarounds)

While iDDR does not support a true “nested” playlist, you can retain some of the functionality of inserting a playlist in a playlist in the following ways. These are available in workstation operating mode only.

- Save the list as a program, then insert it into another playlist as an event.
- Use multi-item select and copy/paste.
- Copy/paste events or sections within the same list or from other lists.
- Copy the list in the clips pane, then load and edit the list.

## Selecting Playlist mode

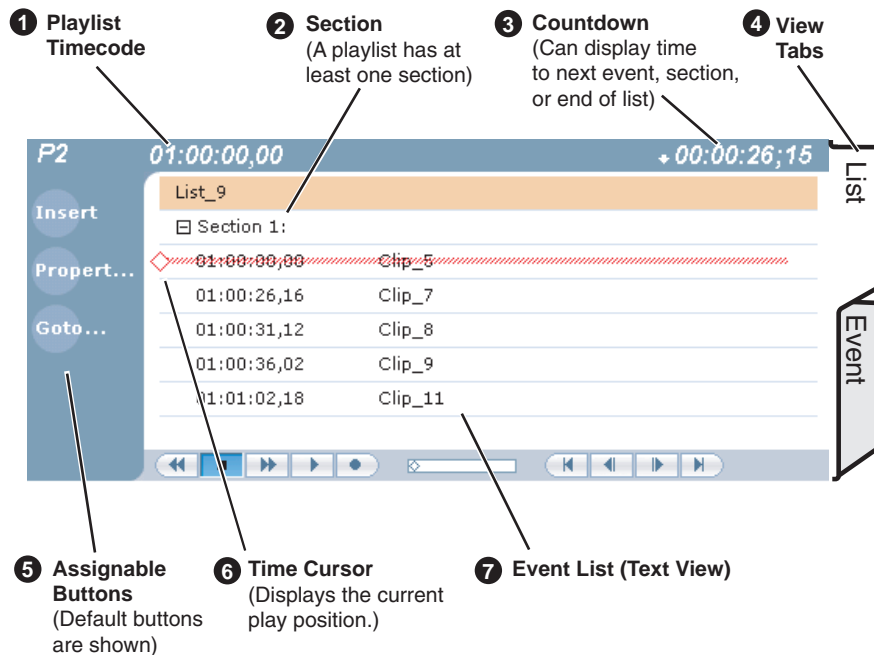
Playlist mode requires a single play channel. If a play channel is currently being used by another mode, you can use the following steps to select the Playlist mode. Selecting the Playlist mode causes the current play channel mode to exit when Playlist mode is started.

To start Playlist mode on a play channel, in the channel's monitor pane, select the mode drop-down list and choose **Playlist**. The channel switches to Playlist mode and becomes the selected channel.

## Guide to using Playlist mode: List View

The Playlist List View allows you to manage a list—insert, move, or modify events, and to control playout of the list. Clicking the **List** tab displays the List view. You can select the type of display for the asset list—text view, or thumbnail view. (See [“Selecting Text or Thumbnail view” on page 173.](#)) The following describes the basic controls in the List View.

### List view in text display mode




### List view in image display mode



**7 Event List (Image View)**  
(Time Domes display list and section play progress.)

Control	Description and User Operation
<b>1 List Timecode</b> 	<p>Though each play event contains the timecode information from its source clip, the timecode for the list is generated internally. This timecode can be an offset from a specific timecode (the default is 01:00:00;00). See <a href="#">“Setting the playlist timecode” on page 193</a>.</p>
<b>2 Section (Text View)</b>  <b>Section (Thumbnail View)</b>  Section 1:	<p>A list has as least one section, but can have up to 100. All events belong to a section, and each section can have up to 1000 events. In Thumbnail View, the section is displayed as a Time Dome which shows the amount of the section that has played. An empty Time Dome indicates the section has not started to play. Sections can be expanded or collapsed to reveal or hide the events that belong to the section. Expanded sections are indicated by a '+' symbol.</p>
<b>3 Countdown Timecode</b> 	<p>Displays the time to the next event, section or end of the list. To select the countdown mode you want to monitor, open the Options dialog box by selecting Options in the Playlist menu.</p>
<b>4 View tabs</b> 	<p>These tabs toggle between List View and Events view.</p>
<b>5 Assignable Buttons</b>	<p>Assignable buttons allow you to modify the buttons located in the Playlist toolbar to best suit your workflow. Right-clicking a button opens the button pop-up menu which lists the alternative button choices.</p>

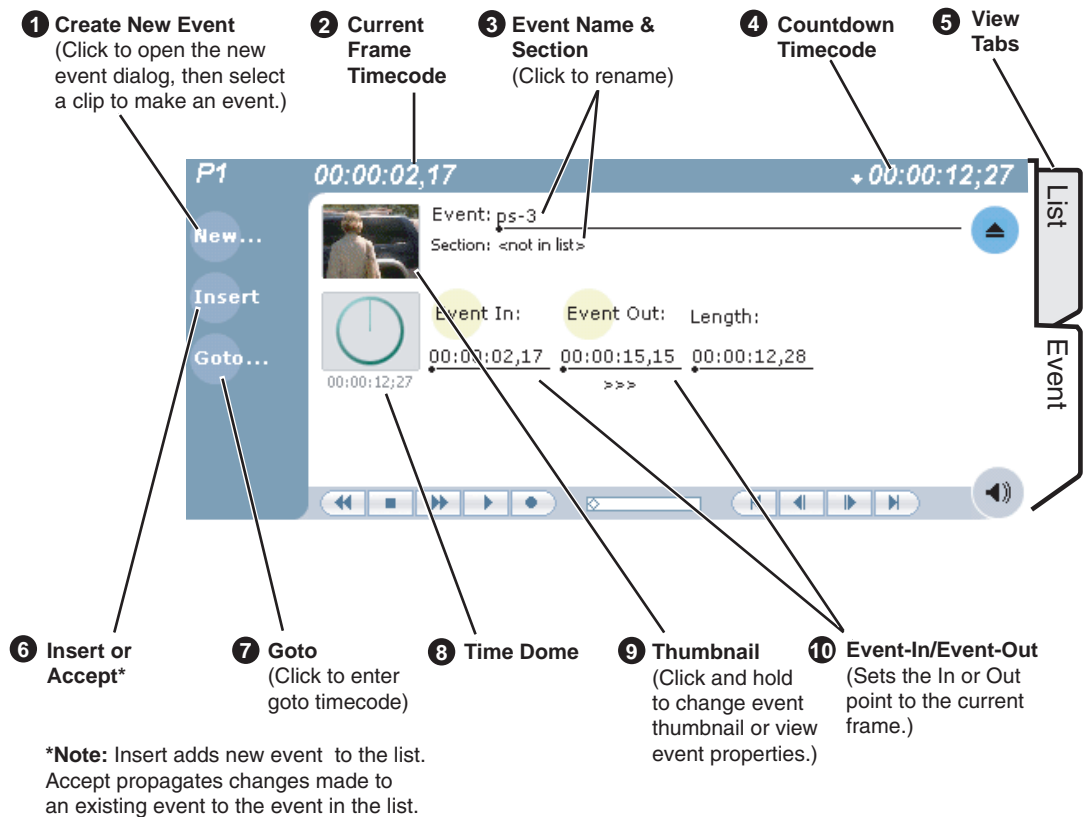





Control	Description and User Operation
<b>6 Time Cursor</b> 	<p>The time cursor indicates the current play position. The time cursor is displayed over the event currently being played.</p>
<b>7 Event List</b>	<p>The Event List contains play events.</p> <p>Play events are created from clips or programs which can be added to the list in two ways: drag and drop from the clips pane, or using the Insert button in List view, Event view, or in the clips pane. By default, play events added to a list inherit the source clip's name, but you can rename events anytime.</p> <p>Play events and sections can be configured to trigger GPI outputs. GPI triggers can be set to occur when the event or section starts, ends, or at these points plus or minus some offset. A GPI trigger does not disrupt playout of the play events that following it. <a href="#">See "Adding GPI output triggers to playlists" on page 190.</a></p> <p>You can view the Event List in either the text view or thumbnail view. Thumbnail view displays clip thumbnails along with Time Domes for the list play progress, and section play progress. To change the view, select Options in the Playlist menu.</p>








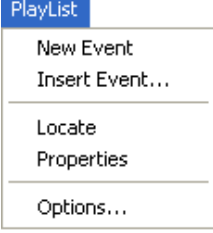
Control	Description and User Operation
<b>Playlist List View Menu</b> 	<p><b>Insert Event</b>– Opens the Insert Event dialog box which allows you to insert all event types. See <a href="#">“Inserting media in a playlist” on page 174</a>.</p> <p><b>Add Section</b>– Adds a section to the end of the list. Once you add the section, you can move it. See <a href="#">“Managing sections in a list” on page 183</a>.</p> <p><b>New List</b>– Opens the New List dialog box where you can choose the current bin and specify the new list name before creating it. When a new list is created, the current list is ejected and the new list is created containing one section and no events. See <a href="#">“Creating a simple playlist” on page 174</a>.</p> <p><b>Open List</b>– Closes the current list and allows you to open an existing list. See <a href="#">“Playing a list” on page 177</a>.</p> <p><b>Rename List</b>– Rename the list currently loaded in Playlist mode.</p> <p><b>Save As Program</b>– Saves the current list as a <a href="#">program</a>. The new program is listed in the clips pane with other assets. Programs can be played using the Player mode, or inserted in a list in Playlist mode. See <a href="#">“Saving a list as a program” on page 195</a>.</p> <p><b>Locate</b>– Locates the list or source clip for an event, depending on the selection, in the clips pane. See <a href="#">“Locating a playlist in the clips pane” on page 194</a> or <a href="#">“Locating the event source clip” on page 183</a>.</p> <p><b>Properties</b>– Opens the properties dialog box for the selected item—list, section, or play event. Properties dialog box includes pages for setting up list timecode, adding metadata, and setting list attributes that will occur when playback reaches the end of the list. Options include repeat, or pause. See <a href="#">“Viewing playlist properties” on page 194</a>. Section properties and event properties dialog boxes include options for setting the end behavior—repeat or pause, and GPI output properties. See <a href="#">“Viewing playlist properties” on page 194</a>.</p> <p><b>Move Up</b>– Moves the selected event up in the list. See <a href="#">“Editing and rearranging events in a playlist” on page 178</a>.</p> <p><b>Move Down</b>– Moves the selected event down in the list. See <a href="#">“Editing and rearranging events in a playlist” on page 178</a>.</p> <p><b>Goto</b>– Opens the Goto pop-up menu which allows you to jump to selection, next event, next section, or a timecode that you specify. See <a href="#">“Playing a list” on page 177</a>.</p> <p><b>Options</b>– Opens the Options dialog box which allows you to select the asset list view (e.g. Text or Thumbnail view), and choose the list monitoring information displayed in the Playlist mode and the monitor pane. See <a href="#">“Selecting Text or Thumbnail view” on page 173</a>.</p>

## Guide to using Playlist mode: Event View

The Playlist Event View allows you to create a new event before inserting it into the play list, or to edit an existing event’s properties. Selecting the **Event** tab displays the Event view. Note that you cannot open Event View while the list is playing. The following describes the basic controls in the Event View.



Control	Description and User Operation
<b>1 New Event Button</b> 	Clicking the <b>New Event</b> button opens the New Event window where you can select a clip to load into the Event window. You can also drag and drop clips onto the Event Name control in the Event View.
<b>2 Event Timecode</b> 	Displays the event's timecode. This is the source clip's recorded timecode. It may be helpful when searching for a particular portion of the media to set event marks.
<b>3 Event Name Control</b> Event: <u>Clip_7</u> Section: Section 1	Displays the event's name and section in the list. To rename the event, click the event name control, then enter a new name. If no event is selected when you switch to the Event View, the Event Name control displays <i>&lt;No event loaded&gt;</i> . You can then create a new event or return to the List View. The section name that the event belongs to is displayed directly below the event name. When viewing an event that is not in the list, "Section: <not in list>" is displayed beneath the event name.
<b>4 Countdown Timecode</b> 	Displays the time to end of event.

Control	Description and User Operation
<b>5 View tabs</b> 	These tabs toggle between List View and Events view.
<b>6 Insert and Accept Buttons</b> 	<p><b>Insert Button</b> – Displayed when editing a new event that is not yet in the list. Inserts the current event into the list after the currently selected event.</p> <p><b>Accept Button</b> – Displayed when editing an event in a list. Propagates changes you made to the event properties to the event in the list, for example, event marks, thumbnail, or end properties.</p>
<b>7 Goto Button</b> 	Opens the Goto dialog box which allows you to jump to a specific timecode in the event.
<b>8 Time Dome</b> 	Displays a graphical representation of the current position between the event's marks with an empty Time Dome representing the current position at event in, and a full dome representing the current position at event out. The time remaining from the current position is displayed beneath the Time Dome. When playing media that is currently being recorded, you'll see that the event mark-out is set to the timecode of the last frame of video when event was initially created even though the source clip is still recording.
<b>9 Thumbnail</b> 	By default, an event uses the same thumbnail as the source clip. You can select the thumbnail image to change the event thumbnail image to the current frame, or to view the event properties.
<b>10 Event In/Event Out</b> Event In:  Event Out: 	Used to change the in and out points of the event. These changes do not take effect until the event is inserted into the list using the Insert button, in the case of a new event, or the changes are accepted, using the Accept button in the case of an existing clip. Clicking Accept propagates event change to the event in the list. Changes to the event are lost if you eject without selecting insert or accept as required. Event In/Out changes do not affect the source clip's mark in and out values, but only the event's marks used by the Playlist.
<b>Playlist Events View Menu</b> 	<p><b>New Event</b>– Opens the New Event dialog box which allows you to navigate through the clips pane to select the source material for the new event.</p> <p><b>Insert Event</b>– Inserts the loaded event in the list. The event is inserted after the last selected event. This menu item only appears when the event is not in the play list, for instance after selecting New Event.</p> <p><b>Locate</b>– Locates the event's source clip in the clips pane. <a href="#">See "Locating the event source clip" on page 183.</a></p> <p><b>Properties</b>– Opens the Event Properties dialog box which includes pages for setting up list timecode, adding metadata, and setting attributes that will occur during playback.</p> <p><b>Options</b>– Opens the Options dialog box.</p>

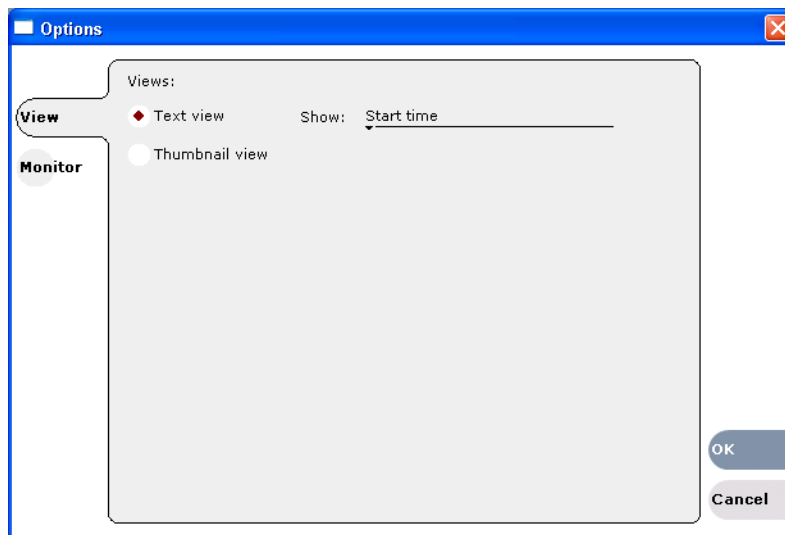
## Selecting Text or Thumbnail view

The event list in the List view has two viewing modes– **Thumbnail view**, and **Text view**. Thumbnail view displays events as thumbnails along with the section and the list time domes. The text view lists events descriptions in text format. You can select which event attributes are displayed in text view.

Use the following steps to select the view mode best for you:

1. In List view, select **Playlist | Options**.

The Options dialog box appears with the View settings tab selected.



2. Select a view mode:

**Text View** - displays events in text form including an event icon, name and an additional attribute selectable using the **Show** drop-down list. Show attributes include the following: **Duration**, **Name only**, **Start time**, or **Start time and duration**.

**Thumbnail View** - displays events in thumbnail form along with the event name.

3. Click **OK** to save settings and close the Options dialog.

## Selecting monitor information

You can select the monitoring information displayed for the list. The selections you make determine the list attributes that are displayed in the following locations:

- **List information displayed in the monitor pane** - List information is displayed under the thumbnail in the monitor pane. You can select the list attributes displayed in the monitor pane.
- **Countdown timecode displayed in the Playlist toolbar** - The countdown timer can count down to the next section, the next event, or the end of list.

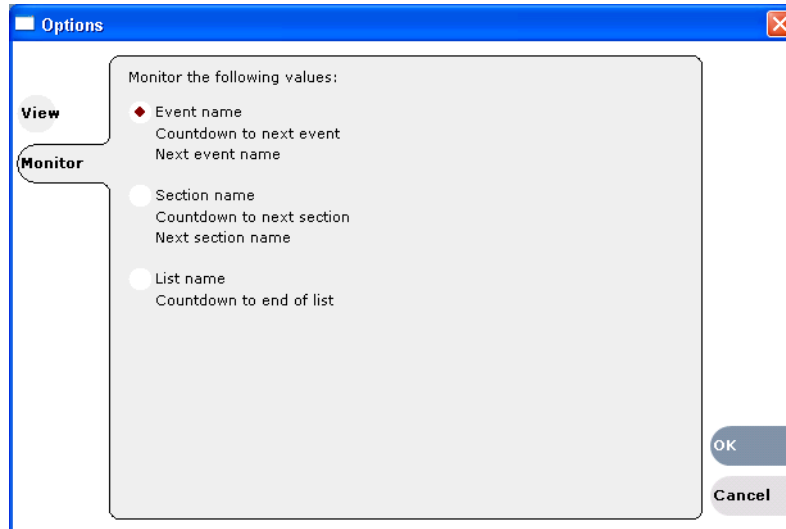
To select the monitor mode:

1. In List view, select **Playlist | Options**.

The Options dialog box appears.

2. Click the **Monitor** tab.

The Monitor settings page appears.



3. Select one of the monitor information options.
4. Click **OK** to save settings and close the Options dialog.

## Creating a simple playlist

Lists are created using the List view. When Playlist mode is started, the last list loaded on the play channel is opened automatically. If the last list loaded has been deleted, then an empty list containing one section and no events is created. New lists are named “List\_n”, where n is the first number that results in a unique file name. There is no “eject” operation in Playlist mode, as there is always a list loaded.

To create a new list:

1. Select **Playlist | New List**.

The New List dialog box is displayed.

2. Select the bin where you want to store the list, edit the default name for the new list, then click **OK**.

The current list closes and the new list is created containing one section and no events.

## Inserting media in a playlist

A new list contains one section and no events. When you start inserting play events, they will be played in the order you insert them. You can move events in the list up or down, or insert new events between existing ones by selecting the insertion point.

### Selecting the insertion point in a playlist

- When using the **Insert** button or menu item, the insertion point is after the currently

selected event.

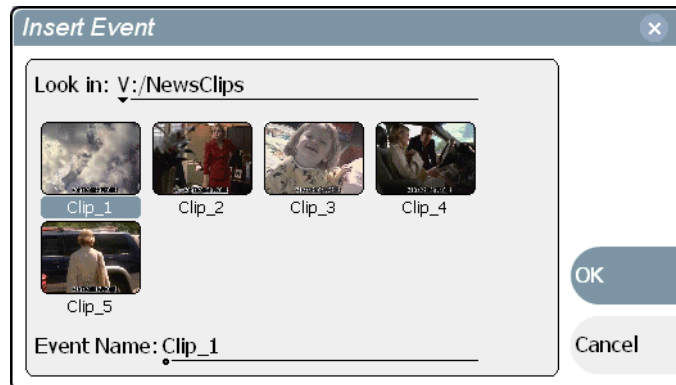
- When using the drag and drop method, you will see a drop cursor as you drag the event over the list. The drop cursor indicates where the new event will be inserted.

**NOTE:** The *time cursor* only indicates the current play position, and cannot be selected and moved. Selecting and dragging may inadvertently select and move the event.

### Inserting events in List view

To insert a play event in List view:

1. Select the **List** tab.
2. Do one of the following:
  - Drag and drop assets from the clips pane using the drop cursor to locate the insertion point.
  - Drag and drop from the monitor pane. Select the thumbnail or video image, then drag to List view. Use the drop cursor to locate the insertion point.
  - Double-click an asset in the clips pane. The asset is inserted in the list after the insertion point.
  - Select an event in the list as the insert point, then select one or more assets in the clips pane. Click **Insert** in the clips pane to insert the event after the insert point.
  - Select an event in the list as the insert point, then click **Insert** in List view, and select one or more assets in the Insert Event dialog box. Click **OK** to insert the events.



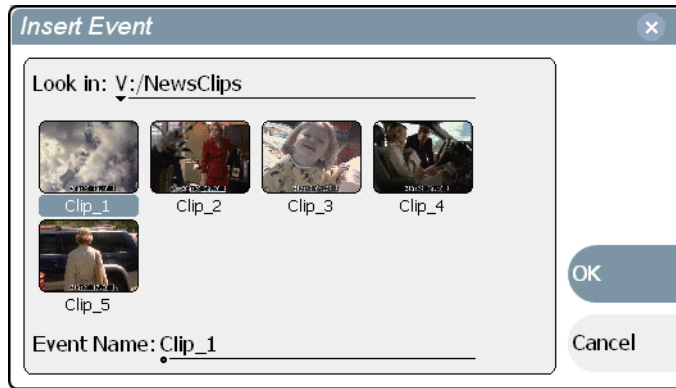
### Inserting play events in Event view

To insert a play event in Event view:

1. Click the **Event** tab.
2. Do one of the following:
  - Drag and drop an asset from the clips pane, then click the Event view **Insert** button to add it to the list.

- Select an asset in the clips pane and click the **New Event** button. After trimming the event as required, click the Event view **Insert** button to insert the event in the list.
- Click the **New** button to open the New Event dialog box. Select an asset in the New Event dialog box, then click **Load**. Trim the clip if necessary, then click **Insert**.

The event is displayed in the Event view and added to the list.



### Using copy and paste to insert play events

Any asset that can be selected can be placed on the clipboard and pasted into another application that accepts that type of asset. For example, you can copy a play event from Playlist mode on one play channel and paste it into Playlist mode on the other play channel. You can also copy a clip from the clips pane and paste it into the Playlist mode.

The Cut, Copy, and Paste operations are performed by using the AppCenter's Edit menu, by using the standard keyboard shortcuts (CTRL+C, CTRL+X, CTRL+V), or by using the right-click menus of cut, copy and paste.

To insert an asset from the clips pane using the clipboard:

1. In the clips pane, select one or more assets.
2. Copy the assets to the clip board.
3. Select an insertion point in the list.
4. Paste the asset from the clipboard into the list.

To use the clipboard to move or copy events already in a play list:

1. Select the event(s) you wish to move or duplicate.
2. Copy or Cut the selection to the clipboard.
3. Select the new insertion point in the list.
4. Paste the event(s) from the clipboard into the list.



**Related Topics**

- [“Introducing AppCenter” on page 114](#)
- [“Keyboard Shortcuts” on page 281](#)
- [“Selecting multiple assets” on page 224](#)

**Playing a list**

Once the list is complete, you can open it and play it, as described in the following sections.

**Opening a playlist**

To open a list, do the following:

1. Select **Playlist | Open List**, or drag a playlist from the clips pane into the channel.

The Open List dialog box appears.

2. Locate and select the list you want to open, then click **Open**.

Before the list is opened, the currently loaded list is closed. In Playlist mode there is no eject button, so you can open an existing list or create a new list without manually closing the currently loaded list.

**Playing a playlist**

You can perform the following operations to play a playlist using the front panel transport controls and AppCenter user interface. You can also use the keyboard shortcuts for all transport controls. See [“Keyboard Shortcuts” on page 281](#).

To...	Do this...
Begin playing at the top of the list	Open the list, then press <b>Play</b> .
Begin playing at an event in the list	Select an event in the list, then press <b>Play</b> .
Continue payout after a pause in the list	Press the <b>Play</b> button.
Play the next event	Press the <b>Play</b> and <b>FF</b> buttons. -or- Select <b>Goto</b> , and then choose <b>Next Event</b> in the Goto pop-up menu.
Play the next section	Press the <b>Play</b> button and hold the <b>FF</b> button down. -or- Select <b>Goto</b> , and then choose <b>Next Section</b> in the Goto pop-up menu.
Skip playback to any event or section in the list	First, press and hold the <b>Play</b> button, then select the event or section using the touch screen.
Select an event or section to playback	First, select the event or section, then click <b>Goto</b> , and choose <b>Selection</b> in the Goto pop-up menu. Then press <b>Play</b> .
Avoid delays when jumping to a new event or section	First select the new event or section, then wait until the diamond or standby icon is filled in before jumping to the new event or section.

To...	Do this...
Use keyboard shortcuts to play the play list	See “Using Keyboard shortcuts” on page 79.
Use GPI input triggers to play the play list	See “Configuring GPI inputs” on page 121.

## Editing and rearranging events in a playlist

The following topics explain how to work with events in a playlist:

- [“About editing events while the list is playing” on page 178](#)
- [“Creating an event before inserting it in a playlist” on page 178](#)
- [“Editing event marks” on page 179](#)
- [“Clearing event marks” on page 181](#)
- [“Moving events” on page 181](#)
- [“Removing events” on page 181](#)
- [“Copying events” on page 181](#)
- [“Renaming events” on page 181](#)
- [“Adjusting event audio levels” on page 182](#)
- [“Changing event thumbnail image” on page 182](#)
- [“Locating the event source clip” on page 183](#)
- [“Viewing event properties” on page 183](#)





### About editing events while the list is playing

If the List view is playing a list, you cannot monitor video and audio of an event when you switch to the Event view. The channel resources and video/audio outputs are being used by the List view. You cannot use the Event view while playlist is playing. You must stop play back, then open Event view to edit an event.

### Creating an event before inserting it in a playlist

You can create a playlist event as a new entity, rather than using an existing clip for the playlist event.

To create a new event for insertion into a playlist:

1. In Event view, do one of the following to define the new event’s in and out points:
  - Click **Event In**  to set mark-in point and **Event Out**  to set mark-out point.
  - Select the Event-In or Event-Out [timecode control](#)  **00:01:11;09** to open the timecode entry dialog box. Enter a timecode value then click **OK** or press **Enter**.
  - Click the **Length** [timecode entry control](#)  and enter a new event length.
2. Click **Accept** to add the event to the list.

## **Editing event marks**

Every event has a event-in point and an event-out point which refer to the first and last frames displayed when the event plays. When first created, event marks are set to the mark-in and mark-out of the source clip. You can edit the event marks in order to reference only the desired media. Event marks can be cleared to reset them to the marks specified in the source clip. (See [“Clearing event marks” on page 181.](#))

The following restrictions apply when editing event marks:

- Event-in must precede the Event-out
- Event marks cannot be set outside the recorded media of the source clip.

**NOTE:** *If more media exists outside the current mark, a <<< or >>> symbol is displayed beneath the current event mark timecode.*

To move event marks, view the event in Event view, then use one of the following methods to move clip marks.

- [“Using the Event In/Out buttons” on page 180](#)
- [“Using the timecode entry controls” on page 180](#)
- [“Using the event length control” on page 180](#)

### Using the Event In/Out buttons

To move clip marks:

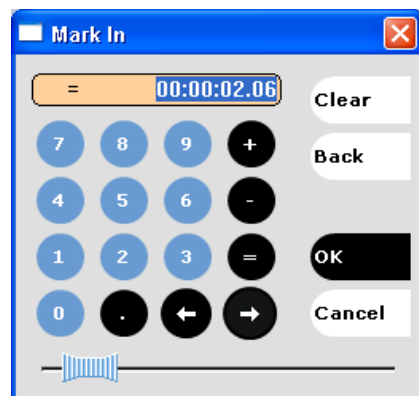
1. Use the transport controls to locate the desired frame.

NOTE: If the List view is playing a list, you cannot monitor video and audio of an event when you switch to the Event view. The channel resources— video and audio outputs, are being used by the List view. However, you can still edit an event in Event view by using the event in/out timecode controls to enter timecodes values.


2. In Event view, click **Event In** Event In: to set mark-in point, or **Event Out** Event Out: to set mark-out point.
3. Do one of the following:
  - For an existing event, click **Accept** to propagate the change to the event in the list.
  - For a new event, click **Insert** to add the event to the list.

### Using the timecode entry controls

1. In Event view, select the Event-In or Event-Out **timecode control** 00:01:11;09 to open the timecode entry dialog box.



2. Enter a timecode value then click **OK** or press **Enter**.

Alternatively: Use the current position scrub bar  in the timecode entry dialog box to locate the desired frame, then click **OK**.

3. Do one of the following:
  - For an existing event, click **Accept** to propagate the change to the event in the list.
  - For a new event, click **Insert** to add the event to the list.

### Using the event length control

Entering a new event length moves the Event-out point.

1. Select the **Length timecode entry control**.
2. Enter a new event length and click **OK** to close the Length dialog box.

The event length changes by moving the event-out point.

3. Do one of the following:

- For an existing event, click **Accept** to propagate the change to the event in the list.
- For a new event, click **Insert** to add the event to the list.

### Clearing event marks

Clearing an event mark resets the mark to the marks used in the source clip. Event-in is set to the mark-in point of the source clip, and event-out is set to the mark-out point of the source clip.

To clear an event mark, do one of the following:

- With the event loaded in Event view, click and hold the **Event In** or **Event Out** button, then choose **Clear Mark** in the pop-up menu.
- With the event loaded in Event view, select the Event-In or Event-Out [timecode control](#) and click **Clear**, then **OK** to clear the mark.

### Moving events

To change the order of events in a list, perform one of the following:

- In List View, drag and drop the event into another location in the list.
- Select an event in List view, then choose **Move Up** or **Move Down** buttons on the **Playlist** menu. The event moves up or down one position in the list.
- Use the **Edit** menu to **Copy**, **Cut**, or **Paste** the event. When you paste the event, it is inserted after the currently selected event. *NOTE: You can paste events that you copied from a list running on the other play channel.*

### Removing events

To remove an event, perform one of the following:

- Select the event in List view, then press the Delete key on your keyboard.
- Select the event in List view, right-click, then select **Remove**.
- Use the **Edit** menu to **Cut** the event.
- Right-click on the event and select **Cut Event**.

### Copying events

To copy an event, perform one of the following:

- Use the **Edit** menu to **Copy** the event.
- Right-click on the event and select **Copy Event**.

### Renaming events

To rename an event, perform one of the following:

- Select the event in List view, then select **Playlist | Properties**. Click on the name of


the event in the Properties dialog box and use the on-screen keyboard to change the name; click **OK**.

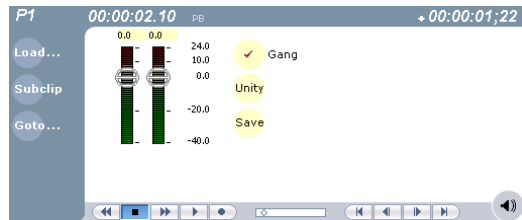
- Select the event in List view, then switch to the Event View. Select the Event name control Event: Clip\_7, enter a new name, and click **OK**.

### Adjusting event audio levels

The audio level for each event in the list is adjusted independently.

To adjust the event audio level:

1. With the event loaded in the Event view, click the Meterbar button .
2. Adjust the audio level using the graphical faders or click **Unity** to return audio to the last saved level.



3. Click **Save** to save changes to the event audio level.

**NOTE:** Changing event audio levels does not affect the source clip. Saved audio levels are stored and used every time the list is loaded and played. Unsaved changes are lost when another list is loaded.

4. Click the Meterbar button  again to return to Event view.

### Changing event thumbnail image

By default, an event's thumbnail is set to the thumbnail of its source clip.

To change an event's thumbnail:

1. Select the event in List View.
2. Select the **Event** tab to change to Event View.
3. Monitor video output and use the front panel or onscreen transport controls to position the clip to the desired video frame.
4. Click the thumbnail in the Event pane, then click **Yes** in the message asking if you want to change the thumbnail image.

The event will now be represented by the new thumbnail. If the event is the first play event in the list, then the list thumbnail is updated to refer to the new event thumbnail.

**NOTE:** If the you modify the event marks so that the thumbnail is outside of the event's media, the thumbnail is automatically changed to correspond to the event's mark in position.

## Locating the event source clip

The locate menu item is used to locate and select the source clip in the clips pane that is used to generate an event.

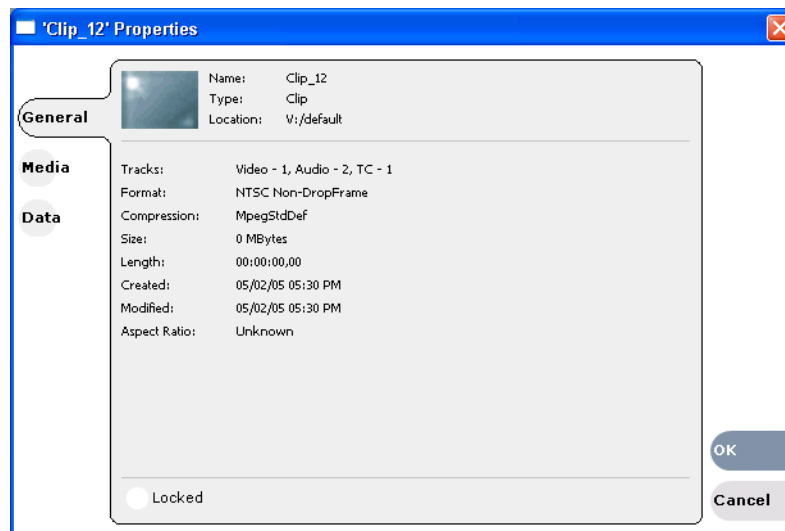
To locate the source clip:

- Select the event in List view, then select **Playlist | Locate**.

The source clip is selected in the clips pane.

## Viewing event properties

1. Select the event in the List view.
2. Open the properties dialog box by doing one of the following:
  - Select **Playlist | Properties**.
  - Click the **Properties** button.
  - Right-click the event and select **Properties**.



### Related topics

- [“To pause at the end of an event” on page 187](#)

## Managing sections in a list

A list has at least one section, and all events belong to a section. Sections management tasks include the following:

- [“Adding and removing sections”](#)
- [“Moving and copying sections”](#)
- [“Renaming sections”](#)

### Adding and removing sections

A playlist has at least one section, but can have up to 100 sections. All events belong to a section, and each section can have up to 1000 events.

To add a section:

- In List view, select **Playlist | Add Section**. The new section is inserted at the end of the list.
- Use the **Edit** menu to **Cut**, **Copy**, or **Paste** a section. When you paste the section, it is inserted after the currently selected section. *NOTE: You can paste a section that you copied from a list running on the other play channel.*
- Right-click on the section and select **Cut**, **Copy**, or **Paste**.

To remove a section, perform one of the following:

- Select the section in the list, right-click and select **Remove**.
- Use the **Edit** menu to **Cut** a section.
- Select the section in List view, then click the **Remove** button. This button only appears in full screen viewing mode.

### Moving and copying sections

To change the order of sections in a list, perform one of the following:

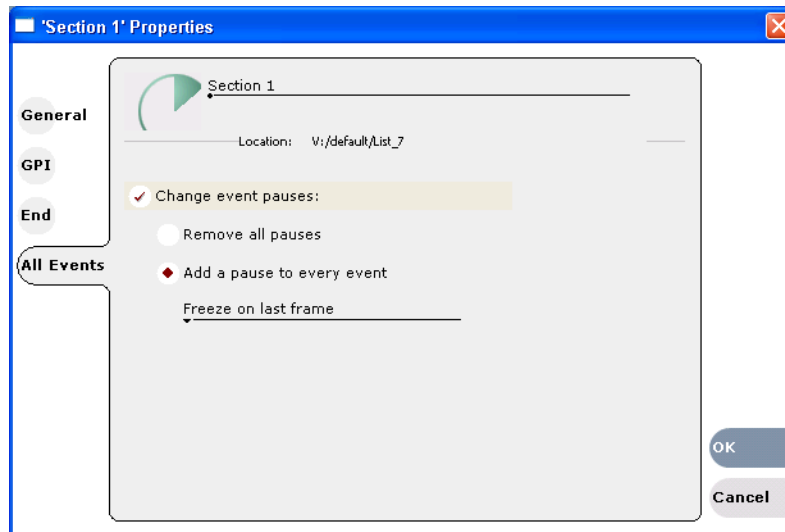
- Drag and drop the section into another location in the list.
- Select an section in List view, then select **Playlist | Move Up** or **Move Down**. The section moves up or down one position in the list.
- Use the **Edit** menu in the AppCenter toolbar or standard keyboard shortcuts to **Cut**, **Copy**, or **Paste** the section. When you paste the section, it is inserted after the currently selected section. *NOTE: You can paste sections that you copied from a list running on the other play channel.*
- Right-click on the section and select **Cut**, **Copy**, or **Paste**.

### Renaming sections

To rename a section:

1. Select the section in the List view.
2. Open the properties dialog box by doing one of the following:
  - Select **Playlist | Properties**.
  - Click the **Properties** button.
  - Right-click on the section and select **Properties**.





3. Select the section name, then enter a new name.
4. Click **OK**.

## Adding play effects

These settings determine what will happen at the end of the list, section, or event when the list is played.

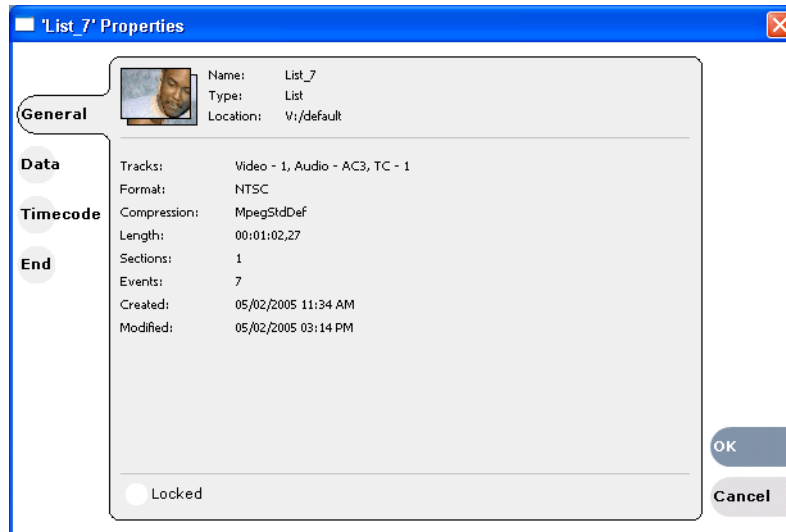
Topics in this section include:

- [“To repeat at the end of a playlist” on page 185](#)
- [“To repeat or pause at the end of a section” on page 186](#)
- [“To pause at the end of an event” on page 187](#)
- [“To add pause to all events in a section” on page 188](#)
- [“To remove pause from all events in a section” on page 189](#)

### To repeat at the end of a playlist

You can loop on a list until you manually stop playing.

1. Open the list properties dialog box by doing one of the following:
  - Select **Playlist | List Properties**.
  - Select the list icon in the event list, then click the **Properties** button.
  - Right-click on a list and select **Properties**.
2. Click **End**, then choose the **Repeat** option.

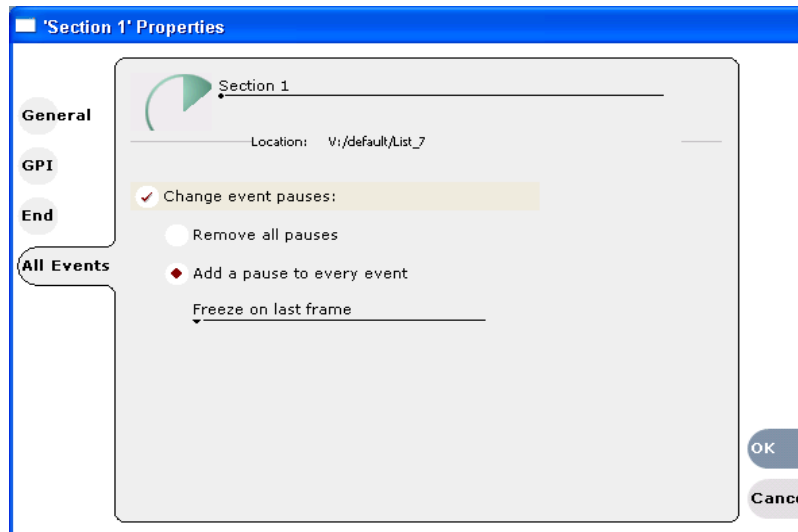


3. Click **OK** to close.


### To repeat or pause at the end of a section

To force a pause at the end of all section events:

1. Select the section in the List view.
2. Open the properties dialog box by doing one of the following:
  - Select **Playlist | List Properties**.
  - Select the list icon in the event list, then click the **Properties** button.
  - Right-click on a list and select **Properties**.
3. Click **All Events**.
4. Select the **Change event pauses** check box, then choose the **Add a pause to every event** option.



5. Use the drop-down list to choose whether to **Freeze on last frame**, **Freeze on next event**, **Show black**, or **Show E-to-E**.
6. Click **OK**.


Each event's properties are modified to include the specified pause type. During playback, each event will remain paused at its end until you intervene. The pause symbol  appears next to the events in List view.

### To pause at the end of an event

1. Select the event in List view.
2. Open the properties dialog box by doing one of the following:
  - Select **Playlist | List Properties**.
  - Select the list icon in the event list, then click the **Properties** button.
  - Right-click on a list and select **Properties**.
3. Click **End**.



4. In the End page, select the **Pause at end** option.
5. Use the drop down list to choose whether to **Freeze on last frame**, **Freeze on next event**, **Show black**, or **Show E-to-E**.
6. Click **OK**.

The pause symbol  appears next to the event in List view.

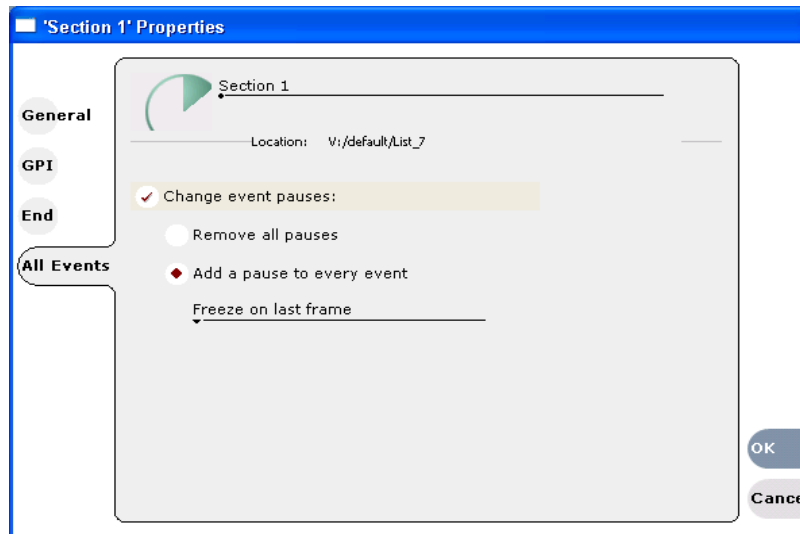
#### Related topics

- [“To add pause to all events in a section” on page 188](#)
- [“To remove pause from all events in a section” on page 189](#)


### To add pause to all events in a section

To force a pause at the end of all section events:

1. Select the section in the List view.
2. Open the properties dialog box by doing one of the following:
  - Select **Playlist | List Properties**.
  - Click the **Properties** button.
  - Right-click on a section and select **Properties**.
3. Click **All Events**.
4. Select the **Change event pauses** check box, then choose the **Add a pause to every event** option.



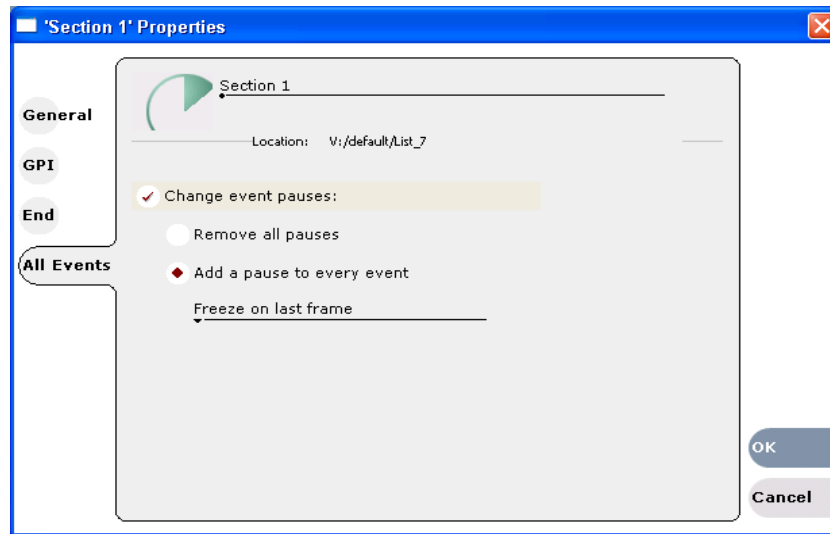
5. Use the drop-down list to choose whether to **Freeze on last frame**, **Freeze on next event**, **Show black**, or **Show E-to-E**.
6. Click **OK**.

Each event's properties are modified to include the specified pause type. During playback, each event will remain paused at its end until you intervene. The pause symbol  appears next to the events in List view.

### To remove pause from all events in a section

To remove pauses at the end of all section events:

1. Select the section in the List view.
2. Open the properties dialog box by doing one of the following:
  - Select **Playlist | List Properties**.
  - Click the **Properties** button.
  - Right-click on a section and select **Properties**.
3. Click **All Events**.



4. Select the **Change event pauses** check box, then choose the **Remove all pauses** option.
5. Click **OK**.

Pauses are removed from all events in the section. The section now plays without pausing between any events.

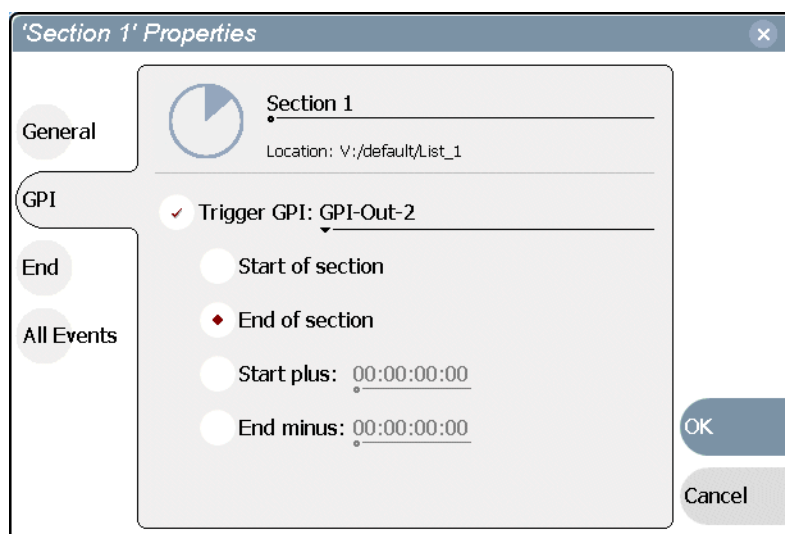
## Adding GPI output triggers to playlists

You can assign GPI output triggers to events and sections in a playlist. The GPI outputs can be used to trigger external equipment when the list plays. Before you can use GPI output triggers in a list, you must assign GPI outputs to the play channel using Configuration Manager. Refer to [Chapter 2, Configuration: Turbo iDDR on page 33](#).

**NOTE:** If you want to play a list that was created on another play channel, you must ensure that GPI triggers assigned to the play channels use the same names, otherwise the GPI triggers will not occur. Using identical GPI naming also allows copying and pasting sections and events between lists.

To trigger GPI outputs:

1. Use Configuration Manager to assign GPI outputs to the current Play channel.  
Follow instructions in [Chapter 2, Configuration: Turbo iDDR](#), then return to this procedure.
2. Select an event or section in the playlist, then open the properties dialog box by doing one of the following:
  - Select **Playlist | Properties**.
  - Click the **Properties** button.
  - Right-click on an event or section and select **Properties**.



3. Select Trigger GPI, then use the drop-down list to select a GPI output.

**NOTE:** If no GPI outputs are listed, use Configuration Manager to assign GPI outputs to the current channel, then return to this step. Refer to [Chapter 2, Configuration: Turbo iDDR on page 33](#).

4. Select the trigger action for the GPI output:

Action	Trigger point
Start of event or section	First frame of event or section
End of event or section	Last frame of event or section
Start plus	Start of event or section plus the time you enter. Offset should not exceed the event or section total length. <sup>a</sup>
End minus	End of event or section minus the time you enter. Offset should not exceed the event or section total length. <sup>a</sup>

<sup>a</sup>. If the offset time entered exceeds the event or section length, a warning message is displayed.

5. Click **OK** to save settings.

## Managing playlists

Managing lists includes the following tasks:

- [“Saving a copy of a playlist” on page 192](#)
- [“Renaming a playlist” on page 192](#)
- [“Changing the playlist thumbnail image” on page 192](#)
- [“Locking a playlist” on page 193](#)

- [“Setting the playlist timecode” on page 193](#)
- [“Locating a playlist in the clips pane” on page 194](#)
- [“Viewing playlist properties” on page 194](#)

### **Saving a copy of a playlist**

When you are creating a new playlist, you might find it easier to use an existing, similar playlist as your starting point, rather than creating a list from scratch. To do this you must first save a copy of the playlist with a new name. Then you can alter it without changing the original playlist.

To save a copy of a playlist:

1. In the clips pane, select the playlist.
2. Copy the playlist onto the clipboard, using the **Edit** menu or standard keyboard shortcuts.
3. Paste the playlist into the clips pane. A copy appears named “Copy of ...”.
4. Rename the copy of the playlist, load it Playlist mode, and alter it to create your new playlist.

### **Renaming a playlist**

You can rename a playlist using the clips pane. The playlist must be unloaded from the Playlist mode by creating a new playlist, or opening an existing one. See these related sections to rename a playlist.

1. Select the playlist in the clips pane.
2. Right-click and select **Rename**.
3. Use the on-screen keyboard to enter new name and click **OK**.

The renamed list appears in the clips pane.

### **Changing the playlist thumbnail image**

The list thumbnail image graphically identifies the list when it appears in the clips pane, or when the List view is set to the thumbnail view option. By default, the list thumbnail is always set to the first play event's thumbnail.

To change the list thumbnail:

1. In the List view, select the first play event in the list.
2. Click the **Event** tab to go to Event View.
3. Use the front panel or onscreen transport controls to locate the video frame to be used for the new thumbnail.
4. Click the Event view thumbnail image, then click **Yes** to set this event's thumbnail to the current position.

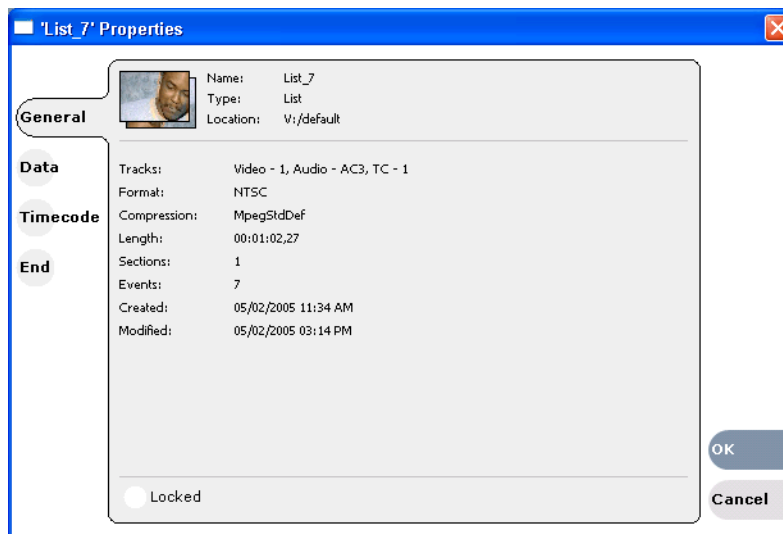
The first play event and the list now have the same thumbnail.



## Locking a playlist

You can lock a list to prevent changes from being made.

1. Make sure that the list to be locked is selected in the list pane.
2. Open the list properties dialog box, doing one of the following:
  - Select **Playlist | List Properties**.
  - Select the list icon in the event list, then click the **Properties** button.
  - Right-click on the list and select **Properties**.
3. Click **General**, then choose the **Locked** option.



4. Click **OK** to close. The lock symbol  appears next to the list in List view.

## Setting the playlist timecode

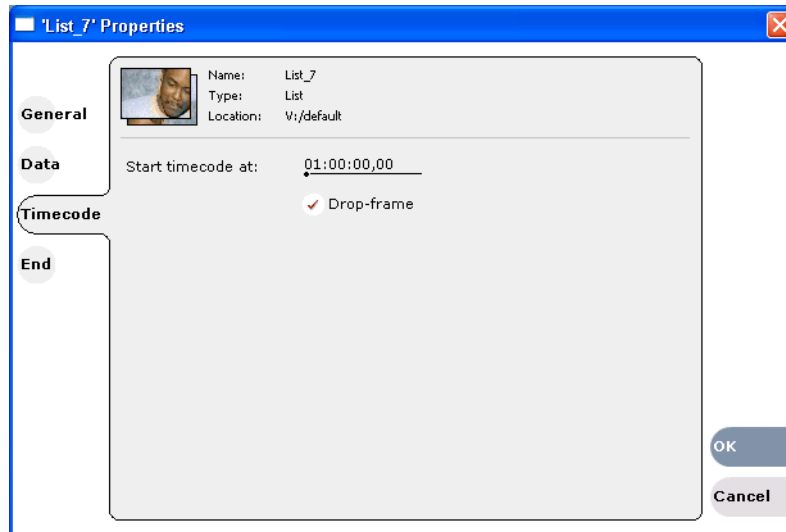
The playlist timecode is displayed in the List view toolbar. This selection is also used to generate LTC timecode for the play channel.

To select the playlist timecode:

1. Open playlist properties dialog by performing one of the following:
  - In List view, select **Playlist | List Properties**.
  - In List view, click the **Properties** button.
  - Right-click on a list and select **Properties**.

The List Properties dialog box is displayed.

2. Click **Timecode** in the properties dialog box.



3. Select **Drop Frame**.

The drop frame option is available when system timing is set to 525 line standard. Drop frame allows the playlist timecode to indicate the actual running time of the list.

4. Specify a start time, then click **OK**.

The start timecode is displayed in the List view toolbar.

### Locating a playlist in the clips pane

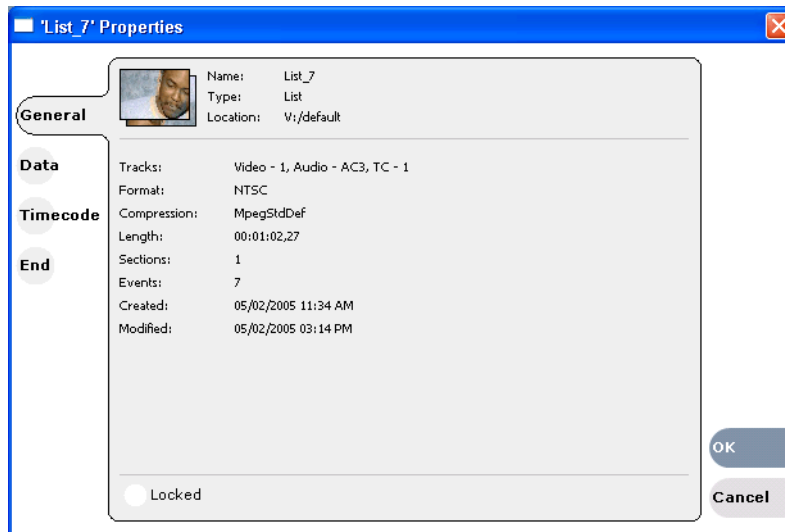
- In List view, select **Playlist | Locate**.

The bin containing the list is shown in the clips pane.

### Viewing playlist properties

In List view, select the playlist, then open the properties dialog box by doing one of the following:

- Select **Playlist | Properties**.
- Click the **Properties** button.
- Right-click on a playlist and select **Properties**.



Refer to the following for more information on these properties pages:

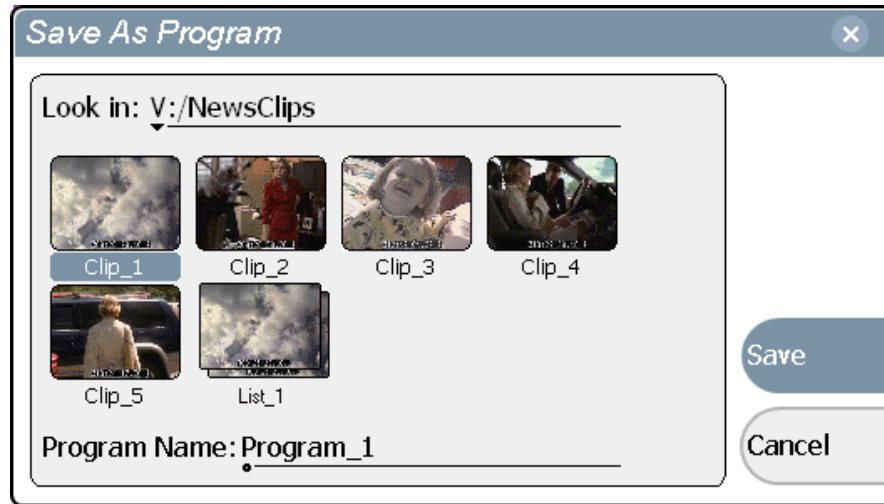
- Data Page – see [“Working with asset metadata” on page 238](#)
- Timecode Page – see [“Setting the playlist timecode” on page 193](#)
- End – see [“Locking a playlist” on page 193](#)

## Saving a list as a program

Playlists can be saved as a program so that they can be managed as a single clip. This saves the events in the list, but nothing that breaks the flow of playout such as pauses between events or sections. Saving a list does not consume media storage space since the program merely references the source clip media that is already stored in the media file system. If the source clips are deleted, the media referenced by the program is preserved. (See [“Deleting an asset” on page 227.](#))

You can insert programs into other playlists, or load and play them using the standard Player mode. In Player mode, you can edit the program mark-in and mark-out points providing the source clips referenced by the program have not been deleted. If that is the case, 1 second of media is preserved before and after the program mark-in and mark-out allowing some trimming.

1. Load the playlist in the Playlist mode.
2. In List view, select **Playlist | Save As Program**.



3. Use the **Look in** control to change the current bin if required.
4. Select the **Program Name** text entry control to change the program name, then click **OK**.

The list is saved as a program in the current bin.

## Importing and exporting media

This section includes the following topics:

- [“About importing media” on page 197](#)
- [“To import a video file” on page 197](#)
- [“To import a still image file” on page 198](#)
- [“About exporting media” on page 201](#)
- [“To export media” on page 202](#)

### About importing media

You can import media using standard multimedia media and still image file formats. Source files can be located on a local Turbo iDDR disk drive (fixed or removable media), or a mapped networked drive.

#### Supported multimedia file formats

Supported File formats	Video elementary format	Audio elementary format
AVI		
MPEG program streams	MPEG-2 Video	MPEG Layer II Audio 48 kHz, 16 bit stereo PCM Dolby digital (AC-3)
GXF	DV25 MPEG-2 Video	48 kHz, 16 bit stereo PCM Dolby digital (AC-3)
WMV (Windows Media)	Windows Media Video	Windows Media Audio
QuickTime		

#### Supported still image and image sequence file formats

You can import still images and image sequence files from local Windows drives, or networked devices. Imports are recorded using the aspect ratio and resolution you specify. Still images are imported as a clip with a duration that you specify.

Supported file types include: .jpg, .bmp, .tiff, .tga, .gif, .png.

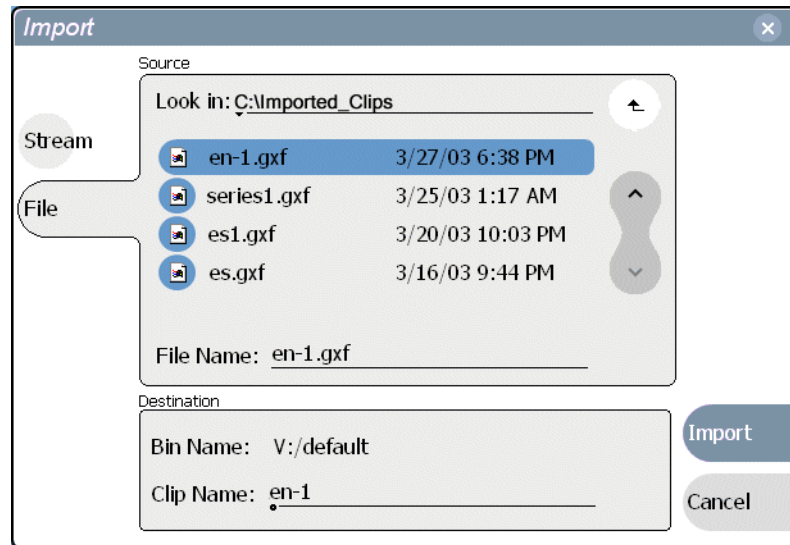
**NOTE:** Before playing a clip that is being imported from a file or stream, use the Transfer Monitor to verify that the clip transfer rate is higher than the clip data rate. This is required to prevent playback problems due to insufficient bandwidth.

### To import a video file

When you import media from a file, the media is converted and stored using the iDDR native file format.

1. Verify the current bin. The current bin is the destination directory for the import operation. For help, see [“Changing the current bin” on page 140](#).
2. In the AppCenter Workstation main menu, select **Clips | Import**.

The Import dialog box opens.




3. Click **File**.

**NOTE:** The appearance of the asset list and file open dialog boxes is determined by the Options setting. (See [“Modifying the asset list view” on page 138.](#))

4. In the Source section, browse to locate and select the source file.

The **Look in** label shows the current location. The list under the **Look in** label displays the contents of the current location. You can select items in the list (such as a *machine*, disk drive, or folder) to explore its contents.

Clicking the up-arrow button  moves up one directory level in the storage hierarchy.

The Look in drop-down list allows you to choose from one of the most recent source locations visited (history).

5. Verify the destination directory indicated next to **Bin Name**. This is where the imported file is placed.
6. Modify the clip name, if needed, by selecting the **Clip Name** edit control.
7. Click **Import** to start the import.

**NOTE:** Import is a background task and can be monitored using the Transfer Monitor. See [“Monitoring media file transfers” on page 207](#) to view the job status.

## To import a still image file

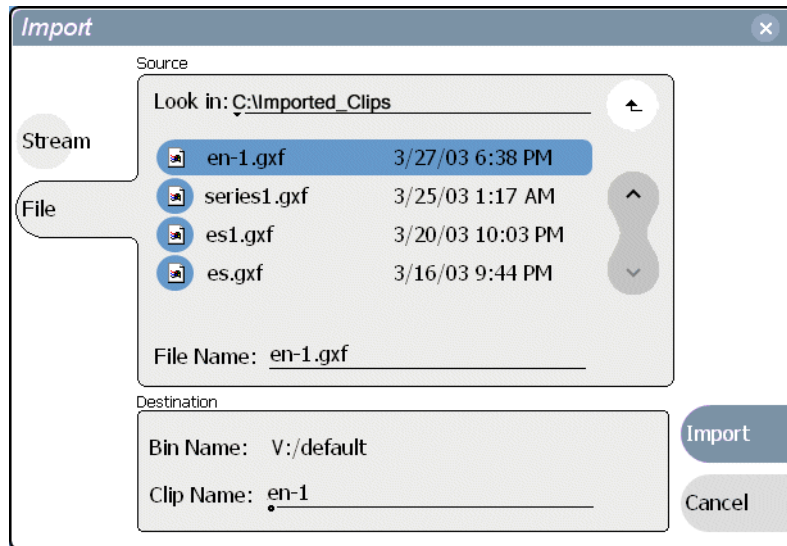
You can import still image or image sequence files. When imported, the image is recorded as a clip using the duration, aspect ratio, and resolution you specify.

1. Verify the current bin location. The current bin is the destination directory for the import operation. For help, see [“Changing the current bin” on page 221.](#)
2. Select **Clips | Import**.

The Import dialog box opens.

3. Click **File**.


The Import dialog box appears.



**NOTE:** The appearance of the asset list and file open dialog boxes is determined by the View Option setting. Use the Clips Pane context menu to choose Image or Text view. (See [“Modifying the asset list view” on page 219.](#))

4. In the Source section, browse to locate and select the source file.

The **Look in** label shows the current location. The list under the **Look in** label displays the contents of the current location. You can select items in the list (such as a *machine*, disk drive, or folder) to explore its contents.

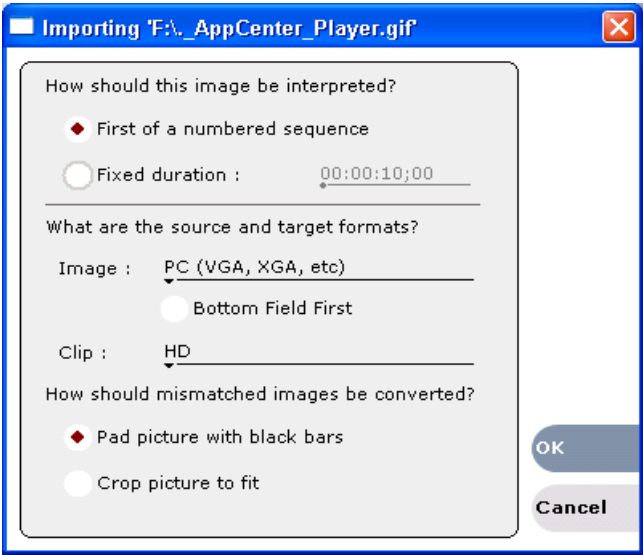
Clicking the up-arrow button  moves up one directory level in the storage hierarchy.

The Look in drop-down list allows you to choose from one of the most recent source locations visited (history).

5. Verify the destination directory indicated next to **Bin Name**. This is where the imported file is placed.

6. Modify the clip name, if needed, by selecting the **Clip Name** edit control.

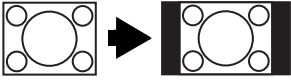
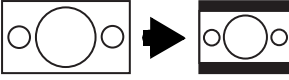
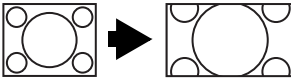
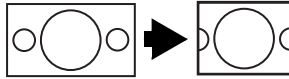
7. Click **Import**. The Importing dialog box is displayed.



Refer to the following table to choose import options.

How should this image be interpreted?		
	<b>First of a numbered sequence</b>	Select if importing a still image to be displayed for a fixed period of time.
	<b>Fixed duration</b>	Select if importing the first of a set of sequentially numbered files.
What are the source and target formats?		
<b>Image</b>	<b>PC (VGA, XGA, etc.)</b>	For computer generated images files. During import the image is gamma-corrected, deflickered and resized to a title-safe area. Gama correction modifies mid range color tones leaving the extreme tones untouched. Compensates for different PC monitors and their display characteristics. The image is assumed to have square pixels.
	<b>HD 1920x1080 59.94Hz</b>	Images are HD frames, and have square pixels. The playout rate is 59.94Hz interlaced. The playout picture size is 1920x1080
	<b>HD 1920x1080 50 Hz</b>	The images are HD frames, and have square pixels. The playout rate is 50Hz interlaced. The playout picture size is 1920x1080
	<b>HD 1440x1080 59.94Hz</b>	Images are HD frames, and have square pixels. The playout rate is 59.94Hz interlaced. The playout picture size is 1440x1080
	<b>HD 1440x1080 50 Hz</b>	The images are HD frames, and have square pixels. The playout rate is 50Hz interlaced. The playout picture size is 1440x1080
<b>Clip</b>	<b>HD</b>	Imports the image file as an HD clip at the current iDDR frame rate setting.
	<b>SD 4:3</b>	Imports the image file as a 4:3 SD clip at the current iDDR frame rate setting.
	<b>SD 16:9</b>	Imports the image file as a 16:9 SD clip at the current iDDR frame rate setting.



How should the image aspect ratio be converted?			
	<b>Pad picture with bars</b>	Standard to Widescreen	Widescreen to Standard
			
	<b>Crop picture to fit</b>	Standard to Widescreen	Widescreen to Standard
			

8. Click **OK** to import the file.

**NOTE:** Import is a background task and can be monitored using the Transfer Monitor. See [“Modifying the asset list view” on page 219](#) to view the job status.

## About exporting media

You can export iDDR clips using standard media file formats. The following table describes the file formats supported.

Export: File Formats Supported <sup>a</sup>
AVI DV25 or uncompressed (.avi) General Exchange Format [SMPTE 360M] (*.gxf) MPEG Program Streams (.mpg) Windows Media (.wmv)

<sup>a</sup>. When exporting playlists or programs to a file, only the GXF format is available

Files can be exchanged over an Ethernet connection to network drives or using common forms of removable media such as CD-R, DVD-R, external USB drives and flash drives.

## About sending files to external drives

The following are operational considerations when sending files to external drives:

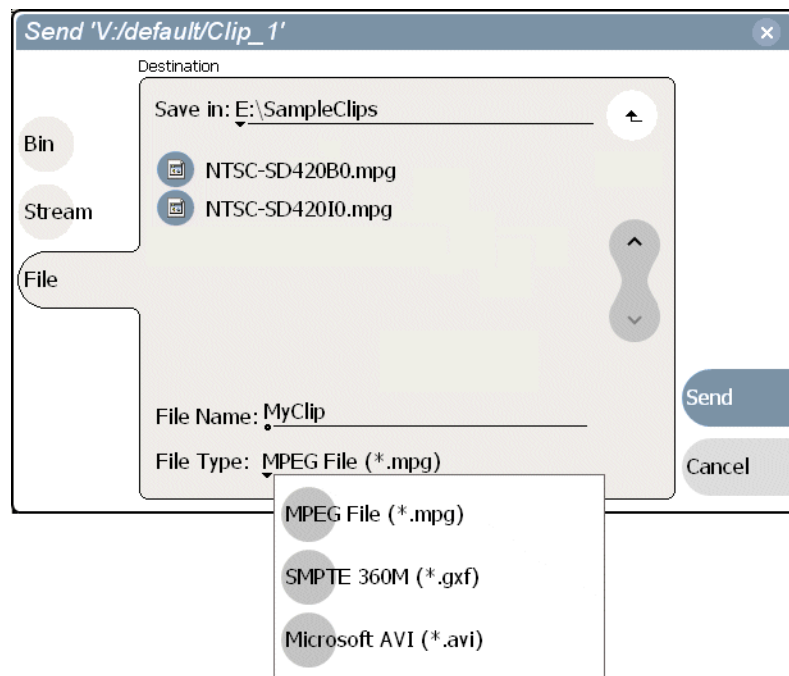
- **Estimating clip file sizes** - AppCenter does not prevent you from sending a file that is larger than the space available on the target disk. The transfer fails when the disk becomes full. To avoid this problem, check the clip size reported in the clip properties dialog box. You can use this to estimate the disk space required for the clip.
- **Best transfer performance** - File transfers are handled concurrently, up to four at a time. Additional transfer requests are queued. To enhance transfer performance, you may try limiting transfers to one at a time.
- **Adding/Removing USB devices** - The USB connectors on the rear panel and front panel can be used to connect a mouse, keyboard, USB drive, or other USB device. Do not plug or unplug these devices while the iDDR is being used for critical play to air activity.

- **Maximum file sizes when exporting assets to USB drives-** Exporting assets with long durations may result in file sizes that exceed 4GB. Some USB drives are formatted using FAT/FAT32 which has the 4GB maximum file size limitation. Attempting to send a file to these disk volumes will cause the transfer operation to fail. Disk volumes formatted using NTFS allow larger maximum file sizes. Before exporting an asset, be sure to check that the file size is less than 4GB, otherwise, ensure that the file system on the target drive supports larger files sizes.

## To export media


1. Select the asset(s) in the Clips Pane that you want to send to a file.
2. Open the Send to dialog box using one of the following steps:
  - Select **Clips | Send to**, or
  - Right-click the clip in the Clips Pane and select **Send to**.

The Send dialog box appears.



3. Click **File**, then locate and select the destination directory.

The **Save in** label shows the current destination. The list under the **Save in** label displays the contents of the current destination. You can select items in the list (such as a *machine*, disk drive, or folder) to explore its contents.

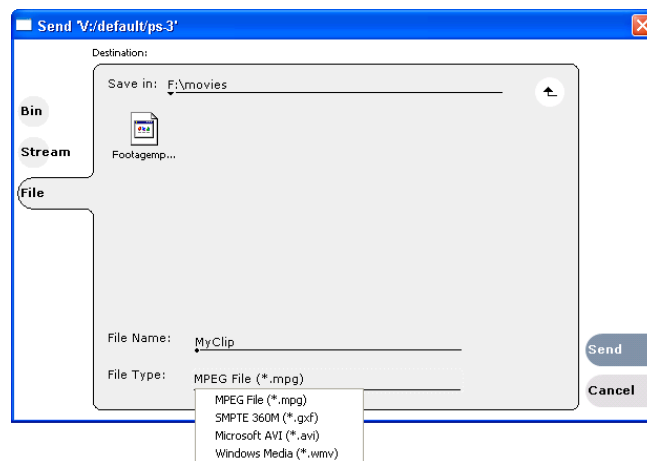
Clicking the up-arrow button  moves up one directory level in the storage hierarchy.

The Save in drop-down list allows you to choose from one of the most recent target locations used (history).

4. Use the **File Type** drop-down list to select the file format:

MPEG File (.mpg)
SMPTE 360M (.gxf)
Microsoft AVI (.avi)
Windows Media (.wmv)

5. If desired, modify the destination file name using the **File Name** File Name: MyClip edit control.
6. Click **Send**.
7. If you chose **Microsoft AVI (.avi)** file format, you must select encoder type, then click **OK** to export.



Format	Export Settings	Comment
<b>Microsoft Video 1</b>	none	
<b>Uncompressed</b>	none	
<b>Microsoft DV</b>	Interleaved (Type 1)	Exports a Type 1 AVI file which contains a standard DV bit stream where the video and audio streams interlaced together. This type of AVI file can only be read by software applications that support DirectShow. This file cannot be read by applications that are only compatible with Video for Windows.
	Non-Interleaved (Type 2)	Exports a Type 2 AVI file which produces a VFW compatible AVI file format. This file type has separate streams for video and audio and it can also be processed by DirectShow. The advantage of creating an Type 2 file is that the file can be read by the older applications that do not support DirectShow.

Format	Export Settings	Comment
Windows Media	Refer to the Microsoft Windows Media support website for information on choosing the best settings for your application	

**NOTE:** Export is a background task and can be monitored using the Transfer Monitor. See [“Monitoring media file transfers” on page 124](#) to view the job status. If the operation fails for any reason, the asset is deleted from the target location.

## Transferring media between Turbo iDDRs

This section includes the following:

- [“About transferring media” on page 204](#)
- [“Transferring media from another iDDR” on page 204](#)
- [“Sending media to another Turbo iDDR” on page 205](#)

### About transferring media

You can transfer media to and from the Turbo iDDR as streaming media, using the **Import Stream** and the **Send to Stream** features. The iDDR supports streaming media transfers over the 1Gb Ethernet port. The source or destination for a streaming transfer must be another Turbo iDDR or M-Series iDDR. (Requires M-Series software version 2.0.10 or higher.) The format for Turbo iDDR streaming is SMPTE 360M (\*.gxf). You must configure your network for streaming transfers prior to using these features. See [Chapter 6, Using an Ethernet connection on page 271](#).

A transfer job is created for each “import” or “send to” operation. Once created, transfer jobs are added to the transfer job queue where they are dispatched in a first in, first out basis. Transfer jobs are handled in the order they appear in the queue. Any additional jobs wait in the queue. You can use the Transfer Monitor to check the status of your transfers. See [“Monitoring media file transfers” on page 207](#).

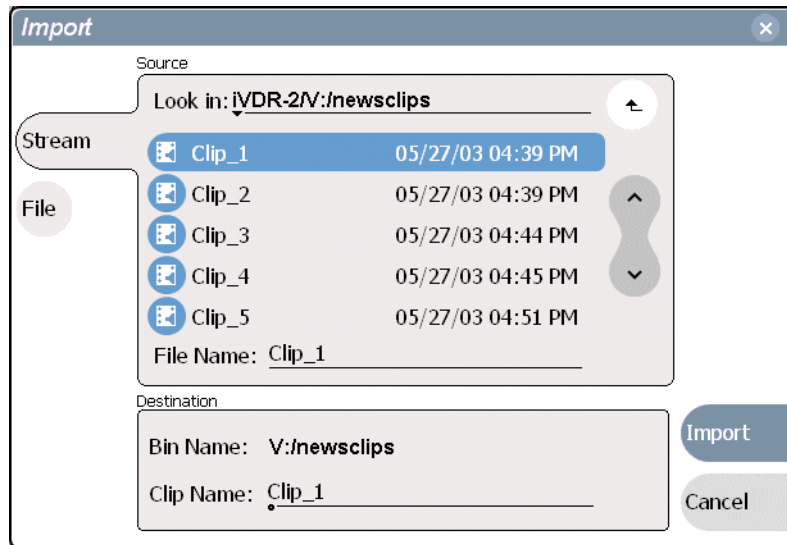
### Transferring media from another iDDR

1. In the Clips Pane, change to the current bin, if desired. The current bin will be the *destination* bin for the import operation.

For more details, see [“Changing current bin using 'Look in' drop-down list.” on page 221](#).

2. Select **Clips | Import**.

The Import dialog box opens.




3. Click **Stream**.

**NOTE:** The appearance of the asset list and file open dialog boxes is determined by the View Option setting. Use the Clips Pane context menu to choose Image or Text view. (See “[Modifying the asset list view](#)” on page 219.)

4. In the Source section, browse to locate and select the source file.

The **Look in** label shows the current location. The list under the **Look in** label displays the contents of the current location. You can select items in the list such as *machine*, *disk volume* or a *bin*, to explore its contents.

Clicking the up-arrow button  moves up one directory level in the storage hierarchy.

The **Look in** drop-down list allows you to choose from one of the most recent source locations visited (history).

5. In the Destination section, **Bin Name** displays the name of the current bin which specifies the destination bin.
6. Specify a clip name, if desired, by clicking the **Clip Name** edit control.
7. Click **Import** to start the transfer.

**NOTE:** Import is a background task and can be monitored using the Transfer Monitor. See “[Monitoring media file transfers](#)” on page 207 to view the job status.

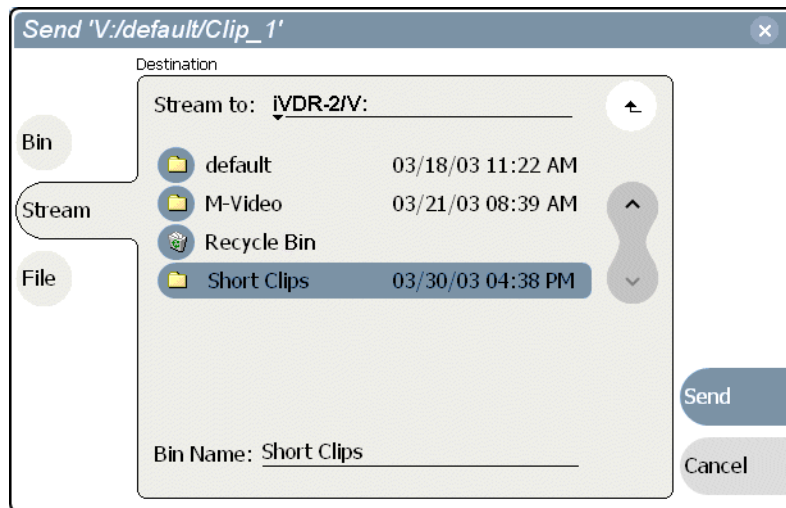
## Sending media to another Turbo iDDR

The iDDR supports streaming media transfers over the Ethernet connection. Streaming transfers allow playout while the asset is still transferring. The destination for a streaming transfer must be another iDDR. The format for Turbo iDDR streaming is SMPTE 360M (\*.gxf).

You must configure an iDDR network adapter prior to using the “Send to stream” feature. Refer to [Chapter 6, Using an Ethernet connection on page 271](#), then return to this procedure.


1. In the Clips Pane, select the asset(s) you want to transfer.
2. Open the Send to dialog box using one of the following steps:
  - Select **Clips | Send to**, or
  - Right-click the clip and select **Send to**.

The Send to dialog box appears.



3. Click **Stream**, then locate and select the stream destination.

The **Stream to** label shows the current destination. The list under the **Stream to** label displays the contents of the current location. You can select items in the list (a *machine*, *disk volume*, or a *bin*) to explore its contents.

Clicking the up-arrow button  moves up one directory level in the storage hierarchy.

The **Stream to** drop-down list allows you to choose from one of the most recent target devices (history).

4. Click **Send** to transfer the asset(s).

**NOTE: Send to stream** is a background task and can be monitored using the iDDR Transfer Monitor tool. (See [“Monitoring media file transfers” on page 124.](#)) If the operation fails for any reason, the asset is deleted from the target location.

## Monitoring media file transfers

The Transfer Monitor is used to monitor all iDDR transfer jobs and their status. A transfer job is created for each “send to” or “import/export” operation. Once created, transfer jobs are added to the transfer job queue where they are dispatched in a first in, first out basis. Up to four transfer jobs can execute simultaneously. Any additional jobs wait in the queue.

Topics in this section include:


- [“Starting the Transfer Monitor”](#)
- [“Transfer Monitor pages and buttons”](#)
- [“Viewing transfer jobs in Transfer Monitor”](#)
- [“Viewing detailed transfer job properties”](#)
- [“Aborting a transfer job”](#)
- [“Removing transfer jobs from the completed list”](#)

## Starting the Transfer Monitor

To start Transfer Monitor, perform one of the following:

- Select **File | Transfer Monitor**

-or-

- In the AppCenter [Statusbar](#), double-click the Transfer Monitor button .  
The Transfer Monitor button appears when a transfer job is present or pending.

## Transfer Monitor pages and buttons

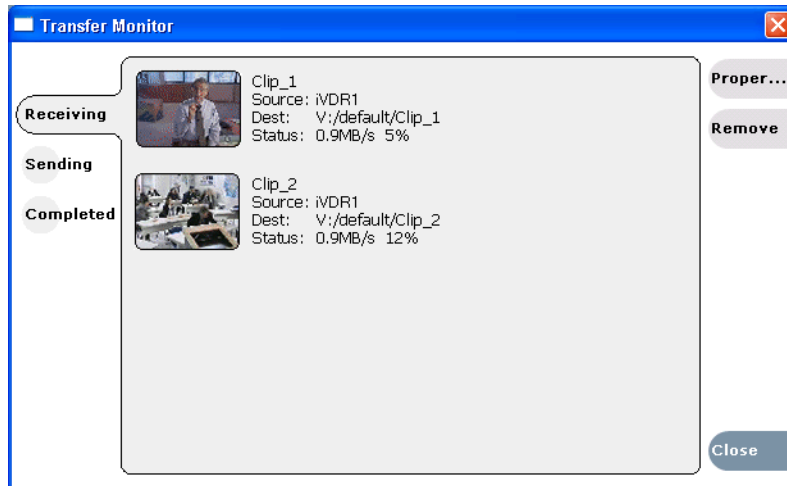
In the Transfer Monitor, transfer jobs are categorized and displayed on one of three pages—Receiving, Sending, and Completed pages. On each page the transfer jobs are displayed using a thumbnail image along with a brief description of its source, destination and status. Jobs that have encountered errors are shown in red text.

- **Source** – The source of the transfer job. If the source includes multiple files, the first file name is displayed plus a '...' sign beside it. You may find the full path of all the source files from the Properties page.
- **Destination** – The destination of the transfer job. You may find the full path of all the source files from the Properties page.
- **Status** – For ongoing transfer jobs, the transfer rate is displayed in megabytes per second and percentage of job completed. All jobs waiting in the queue are shown as “Pending”. Jobs that encountered errors are displayed in red text along with an error code.
- **Properties Button** – Used to view more detailed information about a transfer job. See [“Viewing detailed transfer job properties” on page 210](#).
- **Remove Button** – Used to remove jobs from the Transfer queue.
- **Remove All Button** – Used to remove all of the jobs from the Transfer queue at once.
- **Abort Button** – Used to cancel transfer jobs in progress.



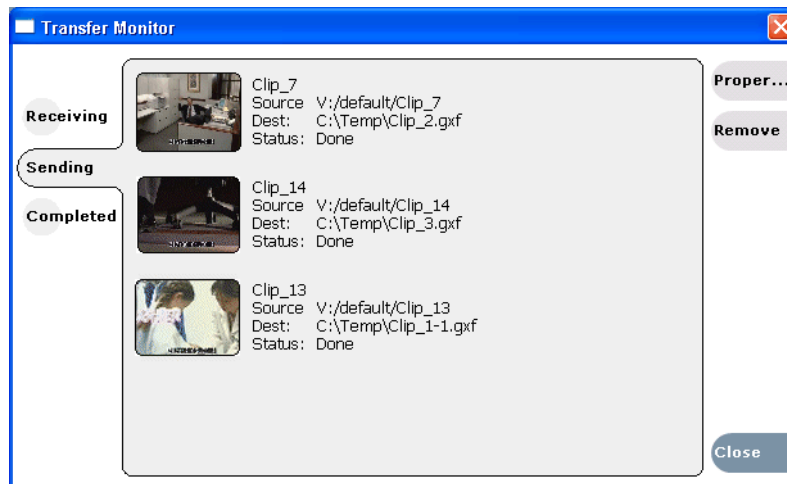
### Receiving Page

The Receiving page displays all import transfer jobs.



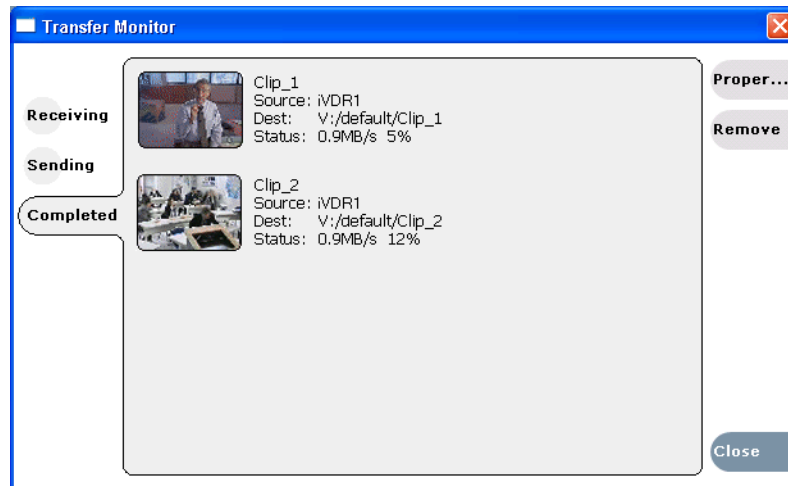
### Sending Page

The Sending page displays all “Send to” transfer jobs and their status.



### Completed Page

The Completed page displays all jobs that have completed successfully. Completed jobs are automatically cleared after approximately 36 hours. You can manually clear jobs from the completed list using **Remove** or **Remove All**.



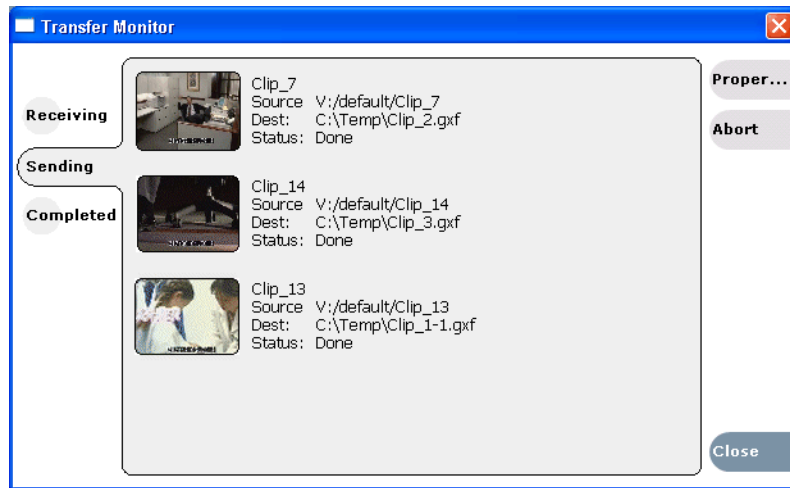
## Viewing transfer jobs in Transfer Monitor

Each transfer job is displayed in the Transfer Monitor with a thumbnail image along with a brief description of its source, destination and status. For jobs that have encountered errors, they are shown in red. You may find more detailed information about a transfer job from its Properties page.

- **Source:** The source of the transfer job. If the source includes multiple files, the first file name is displayed plus a '...' sign beside it. You may find the full path of all the source files from the Properties page.
- **Destination:** The destination of the transfer job. You may find the full path of all the source files from the Properties page.
- **Status:** For ongoing transfer jobs, the transfer rate is displayed in megabytes per second and percentage of job completed. All jobs waiting in the queue are shown as "Pending". Jobs that encountered errors are displayed along with an error code. You may find a more detailed error message in the Properties page.

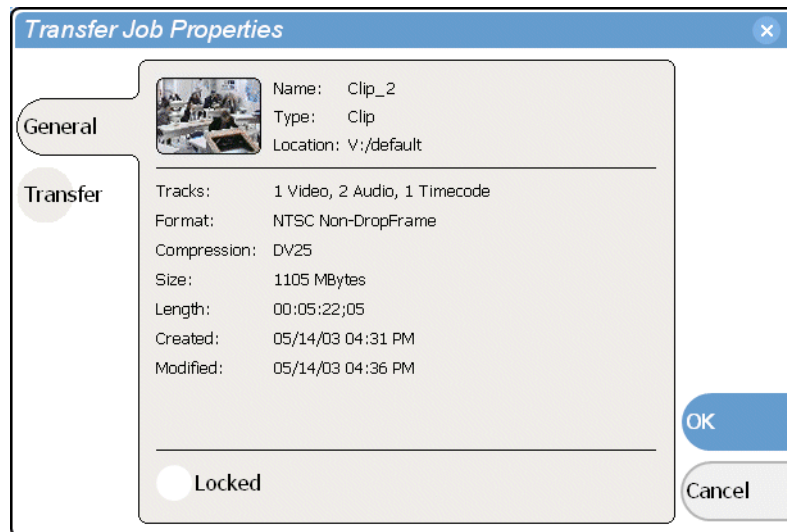
## Viewing detailed transfer job properties

1. In the Transfer Monitor, select a transfer job.



2. Click **Properties**.
3. When the Transfer Job Properties dialog box appears, select the **Transfer** page to examine transfer properties.

#### General properties page



### Transfer properties page



### Aborting a transfer job

1. In Transfer Monitor, select a transfer job in the list.
2. Click **Abort**.

### Removing transfer jobs from the completed list

You can remove transfer jobs from the Completed page.

1. In Transfer Monitor, click **Completed**.
2. Remove the transfer jobs using one of the following:
  - Select the job(s) to remove, then click **Remove**.
  - Select the job(s) to remove, then click **Remove All**.

## Managing media

The AppCenter Clips Pane is used to manage the assets stored on the iDDR. Almost all the media management tasks you'll perform fall in the following topics.

- [“Guide to using the Clips Pane”](#)
- [“Modifying the asset list view”](#)
- [“Working with bins”](#)
- [“Working with assets”](#)
- [“Working with the Recycle Bin”](#)
- [“Locating assets”](#)
- [“Working with asset metadata”](#)
- [“Viewing asset properties”](#)

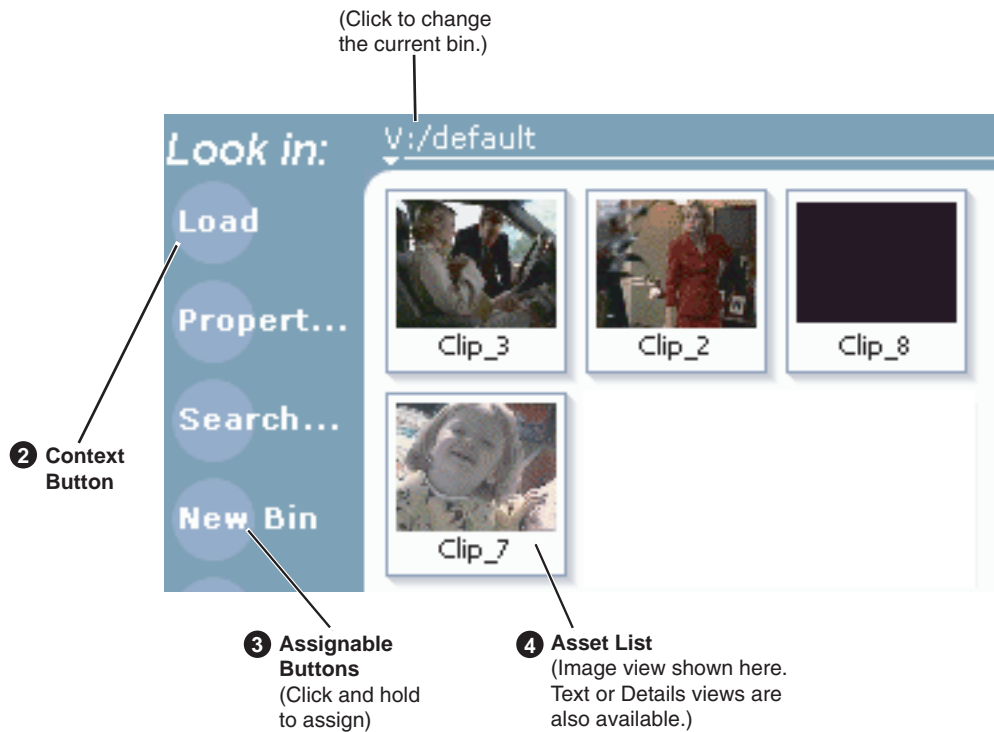
## Guide to using the Clips Pane

The Clips Pane in the iDDR user interface provides tools for managing assets stored on the media drives. Assets include [clips](#), and [playlists](#), and [programs](#). In addition to the typical file management tasks such as browse, copy, move, delete, and managing the directory structure, you'll also use the Clips Pane to transfer files to other devices, and to import or export assets using standard file formats.

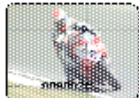
**NOTE:** The Clips Pane in AppCenter Workstation can be used to manage media when the iDDR is in front panel control mode. When the front panel display requires text entry, for example, to name a clip, the external keyboard output is switched from AppCenter to the front panel display.

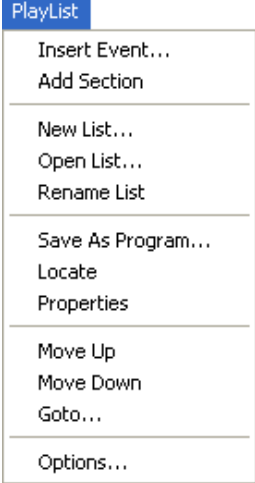
### Viewing the Clips Pane

The Clips Pane is always displayed in AppCenter. The size of the Clips Pane changes when you resize the monitor pane or the channel pane. At its minimum size the Clips Pane displays a single column of clip thumbnails.



Control	Description and User Operation
<p>1 Current Bin Label</p> <p>Look in: V:/default</p>	<p>Displays the name and location of the current bin, or the summary of the search or link operation. At first time start-up, the current bin is V:/default. The bin named 'default' is on the internal <a href="#">disk volume</a>. Click the current bin label to change the current bin and organize bins. See "About the Current Bin drop-down list" on <a href="#">page 217</a>.</p>

Control	Description and User Operation
<b>2 Context Button</b>	<p>The operation and label of the context button changes with the mode of the selected channel.</p> <p><b>Load</b> – Displayed when the selected channel is in Player mode or Recorder mode. Loads the asset selected in the asset list.</p> <p><b>New Event</b>– Displayed when the selected channel is in Playlist mode Event View. Creates an unattached event in the playlist that can be previewed and then inserted.</p> <p><b>Insert</b> – Displayed when the selected channel is in Playlist mode List View. Inserts selected assets into the playlist.</p> <p><i>Note: Double-clicking the asset in the asset list performs the same function as clicking the context button.</i></p>
<b>3 Assignable Buttons</b>	<p>Assignable buttons allow you to modify the button assignments to best suit your workflow. Right-clicking a button opens the button pop-up menu which lists the alternative button choices.</p> <p><b>Properties</b>– Opens the Properties dialog for the selected asset. <a href="#">See “Viewing clip properties” on page 242.</a></p> <p><b>Search</b>– Opens the search dialog box. <a href="#">See “Locating assets” on page 230.</a></p> <p><b>New Bin</b>– Creates a new bin. To create a new bin in the current <a href="#">disk volume</a>, click New Bin, then enter the new bin name using onscreen or external keyboard. <a href="#">See “Working with bins” on page 221.</a></p> <p><b>Options</b>– Opens the options dialog box which allows you to modify how assets are displayed in the asset list. <a href="#">See “Modifying the asset list view” on page 219.</a></p> <p><b>Delete</b>– Deletes the selected item(s). <a href="#">See “Deleting a bin” on page 223,</a> or <a href="#">“Deleting an asset” on page 227.</a></p> <p><b>Rename</b>– Opens the rename dialog box. <a href="#">See “Renaming an asset” on page 224.</a></p> <p><b>Send to</b>– Opens the Send to dialog box used to send the asset to a file, or streaming transfer to another networked device.</p>
<b>4 Asset List</b> Select from three view options— Text, Image, or Details	<p>Displays the list of assets located in the current bin.</p> <p>You can scroll through the list using the up/down arrow keys on an external keyboard. Right-click to open the Asset Context menu. <a href="#">See “About the asset context menu” on page 218.</a></p> <p>You can change how assets are shown by selecting the view option. View options include Image (thumbnail), Text, or Details (includes thumbnail and detailed text). <a href="#">See “Modifying the asset list view” on page 219.</a></p> <p>Assets recorded using a different video standard or compression type than the current system setting cannot be loaded and played. These assets will appear “greyed” in the Clips Pane asset list. This example shows the appearance of a PAL clip when the iDDR is set to NTSC:</p> <div>  <p>Clip_1</p> </div>

Control	Description and User Operation
<b>Clips Menu</b> 	See <a href="#">“About the asset context menu”</a> on page 218.

## Terms used in the Clips Pane

The following table describes the terms used in the Clips Pane.

Asset	Description
Bin	A container used to organize assets, similar to a directory or folder on a computer. A bin is contained within a <a href="#">disk volume</a> . The iDDR does not support nested bins, that is, a bin cannot contain another bin.
Current Bin	The current bin functions as the target bin when recording clips, or as the source bin when loading clips. The current bin contents are listed in the Clips Pane. The <i>V:/default</i> bin is created automatically.
Disk Volume	The iDDR has one disk volume located on the internal drives. The internal disk volume is formatted using the iDDR media file system created by using the Turbo Storage Utility. The internal disk volume uses the drive letter ‘V:’
Playlist	A sequence of events that can be loaded and played using the Playlist mode. Playlists are created in the Playlist mode by adding clips or programs to a list.
Media	Media is the video, audio, and timecode source material recorded on the disk drives. Each media type is stored in it’s own file which are referenced by one or more clips for playback.
Clip	A clip references the media files stored on the media drives to allow playback of the video and associated audio and timecode recorded from a single source. Deleting a clip deletes the media referenced by the clip only if it is not referenced by another clip. You can use the Find Links feature to find related assets. See <a href="#">“Finding linked assets”</a> on page 236.
Program	Programs are generated from loop record mode or from a playlist using the Playlist mode. Programs generated in Playlist mode include all the media and transitions in the playlist, but nothing that breaks the flow of playout, such as, a pause at the end of an event.



## About the Current Bin drop-down list

- To access the Current Bin drop-down list, click the Current Bin label

**Look in:**  default .



### Current bin menu items

Menu Item	Description and User Operation
<b>Organize Bins</b>	Opens the Organize Bins dialog box used to manage bins— create, delete, rename, change current bin. <a href="#">See “Working with bins” on page 221.</a>
<b>Bin List</b>	List of all the bins in the current <a href="#">disk volume</a> . A volume must always have at least one bin. The default bin is created automatically.
<b>Recycle Bin</b>	Displays the contents of the Recycle Bin. All assets deleted from the asset list are stored in the Recycle Bin until it is emptied. <a href="#">See “Working with the Recycle Bin” on page 229.</a>
<b>Cached Search Results</b>	The last four search results are cached. You can view the most recent search results using the Current Bin drop-down list. <a href="#">See “Locating assets” on page 230.</a>

## About the Clips menu

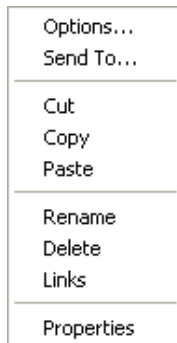
Click **Clips** in the AppCenter Workstation main menu to display the Clips Pane context menu. The following table describes the context menu items.

Menu Item	Description
<b>New Bin</b>	Creates a new bin in the current <a href="#">disk volume</a> . Use the onscreen or external keyboard to enter the bin name. <a href="#">See “Creating a new bin” on page 222.</a>
<b>Empty Recycle Bin</b>	Permanently removes all items from the Recycle Bin. By default, deleted assets are moved to the Recycle Bin and remain there until it is emptied. <a href="#">See “Bypassing the Recycle Bin when deleting” on page 230</a> for information on deleting assets without using the Recycle Bin.
<b>Rename</b>	Opens the <b>Rename</b> dialog box for the selected asset. <a href="#">See “Renaming a bin” on page 223</a> or <a href="#">“Renaming an asset” on page 224.</a>
<b>Delete</b>	Deletes the selected asset. <a href="#">See “Deleting a bin” on page 223</a> or <a href="#">“Deleting an asset” on page 227.</a>
<b>Select All</b>	Selects all items in the asset list. Operations available for Select All include: delete, send to, and copy. <a href="#">See “Selecting multiple assets” on page 224.</a>

Menu Item	Description
<b>Search</b>	Opens the <b>Search</b> dialog box which is used to perform basic or advanced searches. <a href="#">See “Locating assets” on page 230.</a>
<b>Links</b>	Opens the <b>Links</b> dialog box allowing you to locate other assets that are linked to the selected asset. For example, a subclip is linked to the source clip. <a href="#">See “Locating assets” on page 230.</a>
<b>Send To</b>	Opens the <b>Send To</b> dialog box which is used to send assets to a different location— another bin, <a href="#">disk volume</a> , or another iDDR. Send To is also used to export clips or programs to local windows drives or networked devices. <a href="#">See “To export media” on page 115</a> or <a href="#">“Sending media to another Turbo iDDR” on page 205.</a>
<b>Import</b>	Opens the <b>Import</b> dialog box which is used to import assets from the following sources: – Media streams from another iDDR. – Other media file formats from a local drive or over the network. – Still image source files. <a href="#">See “About importing media” on page 109.</a>
<b>Properties</b>	Opens the <b>Properties</b> dialog box for the selected asset. <a href="#">See “Viewing clip properties” on page 242.</a>
<b>Options</b>	Opens the <b>Options</b> dialog box which allows you to change the way assets are displayed in the asset list. <a href="#">See “Modifying the asset list view” on page 219.</a>

### About the asset context menu

To open the asset context menu, right-click the asset.



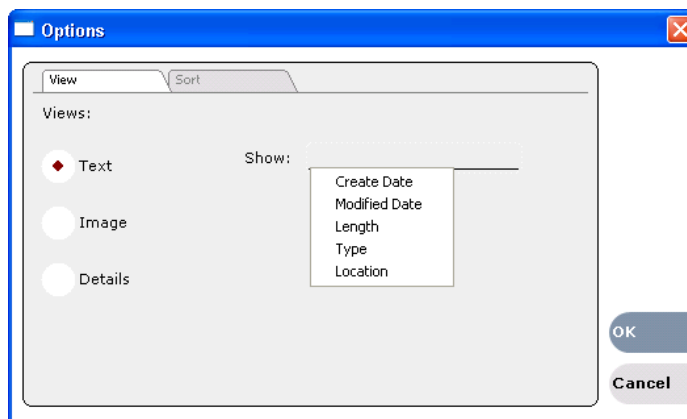
Menu Item	Description
<b>Options</b>	Opens the <b>Options</b> dialog box which allows you to change the way assets are displayed in the asset list. <a href="#">See “Modifying the asset list view” on page 219.</a>
<b>Send To</b>	Opens the <b>Send To</b> dialog box which is used to send assets to a different location— another bin, <a href="#">disk volume</a> , or another iDDR. Send To is also used to export clips or programs to local windows drives or networked devices. <a href="#">See “About importing media” on page 109</a> or <a href="#">See “Sending media to another Turbo iDDR” on page 119.</a>

Menu Item	Description
<b>Cut, Copy, Paste</b>	Used to move assets, or make a additional copies. Copying a clip does not consume media disk space. Only a new reference to existing media is created. <a href="#">See “Moving an asset to another bin” on page 224.</a>
<b>Rename</b>	Opens the <b>Rename</b> dialog box for the selected asset. <a href="#">See “Renaming a bin” on page 223</a> or <a href="#">“Renaming an asset” on page 224.</a>
<b>Delete</b>	Deletes the selected asset. <a href="#">See “Deleting a bin” on page 223</a> or <a href="#">“Deleting an asset” on page 227.</a>
<b>Links</b>	Opens the <b>Links</b> dialog box allowing you to locate other assets that are linked to the selected asset. <a href="#">See “Finding linked assets” on page 236.</a>
<b>Properties</b>	Opens the <b>Properties</b> dialog box for the selected asset. <a href="#">See “Viewing clip properties” on page 242.</a>

## Modifying the asset list view

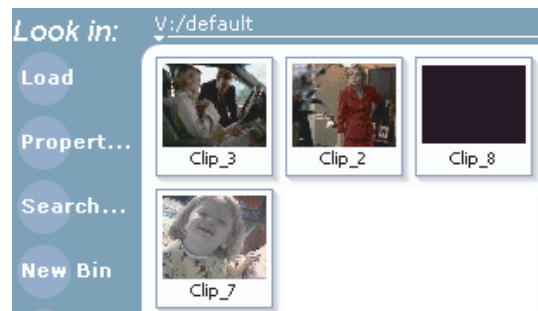
The asset list in the Clips Pane displays the contents of the current bin, and the results from searches or from requests for linked assets. You can choose one of three views to best suit your workflow.

1. Select **Clips | Options**.



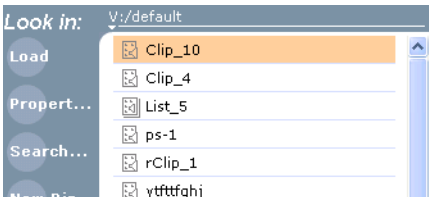
2. In the View tab, select one of the following view options:

### Image view



Displays the asset name and thumbnail image for each asset in the bin. Playlists are displayed as a stack of thumbnails. You can change the video frame used to generate the thumbnail. See “Changing the clip thumbnail image” on page 65.

**Text view**



The text view displays an icon and name for each asset and one attribute of your choice. To select an asset attribute, select the **Show** drop-down list in the View Options dialog box, then select one of the following attributes.

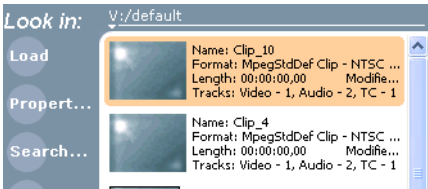
Attribute display options:

- Create Date
- Modified Date
- Length
- Type (MPEG or DV25)
- Location (full path)

The following table describes symbols shown in Text view.

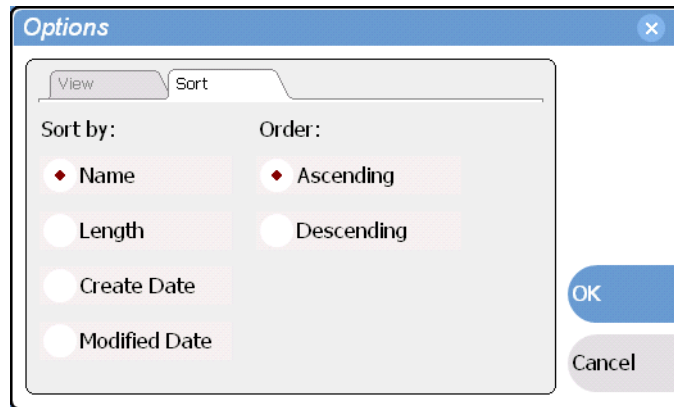
Asset Symbols used in the Text View	Asset Type
	Clips with audio and video
	Video only clip
	Playlist

**Details view**



Details view displays assets with both a thumbnail and a detailed text description.

3. If you want to sort the assets, click the Sort tab, then choose how you want assets sorted:



4. Click **OK**.

The clips pane displays with the new view and sort order.

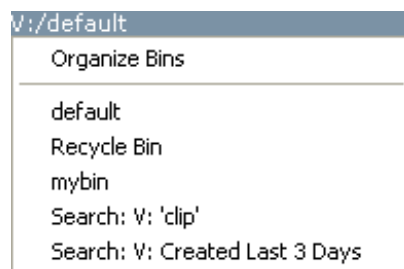
## Working with bins

This section includes:

- “Changing current bin using 'Look in' drop-down list.” on page 221
- “Changing the current bin” on page 221
- “Creating a new bin” on page 222
- “Deleting a bin” on page 223
- “Renaming a bin” on page 223

### Changing current bin using 'Look in' drop-down list.

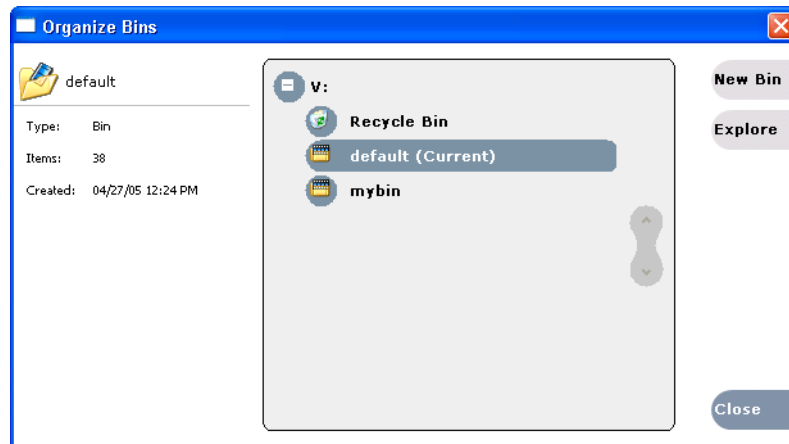
- In the Clips Pane, click the **Current Bin** label **Look in:** `V:/default`, then choose a bin from the list.



### Changing the current bin

Exploring a bin in the Organize Bins dialog box causes it to become the current bin.

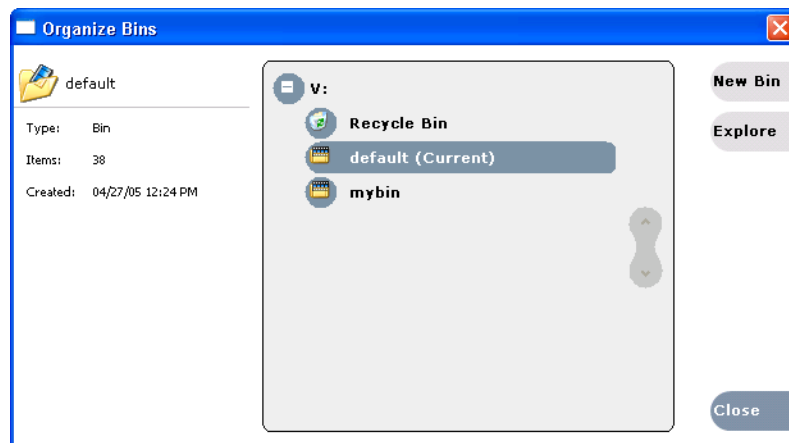
1. In the Clips Pane, select the Current Bin drop-down list **Look in:** `V:/default`, then select **Organize Bins**.
2. In the Organize Bins dialog box, select a bin, then click **Explore**.



3. Close the Organize Bins dialog box.
4. The bin becomes the destination bin (for recording) and the source bin for loading clips (for playing) for all channel operations.


### Creating a new bin

1. Open the Organize Bin dialog box using one of the following methods:
  - Select **Clips | New Bin**.
  - Click the **New Bin** button in the clips pane.
  - In the Clips Pane:
    - Select the Current Bin drop-down list **Look in: V:/default**, then select **Organize Bins**.
    - In the Organize Bins dialog box, select a **disk volume**, then click **New Bin**.



2. Enter the new bin name, then click **OK**.
3. Close the Organize Bins dialog box.


## Deleting a bin

1. In the Clips Pane, select the Current Bin label **Look in:**  default, then select **Organize Bins**.
2. In the Organize Bins dialog box, choose the bin you want to delete
3. Click the **Delete** button.  
Deleted bins and assets are moved to the Recycle Bin unless the “*Remove items immediately when deleted.*” option is set for the Recycle Bin (see “[Bypassing the Recycle Bin when deleting](#)” on page 230). Holding down the SHIFT key during delete also bypasses the Recycle Bin.

**NOTE:** You cannot delete a bin containing assets that are locked or in use. However, the unlocked assets in the bin will be deleted.

4. Click **Yes** in the Confirm Delete dialog box.
5. Close the Organize Bins dialog box.

## Renaming a bin

1. In the Clips Pane, select the Current Bin label **Look in:**  default, then select **Organize Bins**.
2. In the Organize Bins dialog box, choose the bin you want to rename, then click **Rename**.
3. Edit the bin name, then click **OK**.  
Asset names can contain up to 32 characters, including spaces. Spaces count as two characters, and the following characters are not allowed: \ / : \* ? < > | ' (single quote) " (double quote) [ ] and ~ at the beginning of the name.

**NOTE:** If the renamed bin contains assets that are locked or in use, two bins will appear after renaming—one with the new name, and one with the old name containing the problem asset.

4. Close the Organize Bins dialog box.

## Working with assets

Assets displayed in the Asset List include clips, subclips, playlists, and programs. Refer to the following procedures to work with assets:

- “[Renaming an asset](#)” on page 224
- “[Selecting multiple assets](#)” on page 224
- “[Moving an asset to another bin](#)” on page 224
- “[Copying an asset](#)” on page 225
- “[Deleting an asset](#)” on page 227
- “[Erasing a clip's unused media](#)” on page 228
- “[Locking an asset](#)” on page 229

### Renaming an asset

1. Select the asset in the [Asset List](#).
2. Select **Rename** using one of the following:
  - Select **Clips | Rename**, or
  - Select **Rename** in the [asset context menu](#), or
  - Click the **Rename** button in the Clips Pane.  
If the Rename button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “[Guide to using the Clips Pane](#)” on page 214.

The rename dialog box appears.

3. Edit the asset name, then click **OK**.

Asset names can contain up to 32 characters, including spaces. Spaces count as two characters, and the following characters are not allowed: \ / : \* ? < > | ' (single quote) " (double quote) [ ] and ~ at the beginning of the name.

The renamed asset is not re-sorted.

**NOTE:** *Assets that are locked or in use cannot be renamed.*

### Selecting multiple assets

You can select multiple assets in the Clips Pane as follows:

- Select **Clips | Select All**.
- Using mouse and keyboard, hold the SHIFT or CTRL key on the keyboard while selecting multiple assets with the mouse or arrow keys.

### Moving an asset to another bin

There are two ways to move an asset to another bin: Using Cut/Paste or the Send To dialog box.

#### Using the cut and paste commands

1. Select the asset(s) in the [asset list](#).
2. Cut the asset to the clipboard using one of the following:
  - Select **Cut** in the [asset context menu](#), or
  - Select **Edit** in the AppCenter toolbar, then choose **Cut**.
  - Use keyboard shortcut **Ctrl + X**.
3. Change the current bin to the target bin. (Refer to “[Changing current bin using 'Look in' drop-down list](#).” on page 221.)
4. Paste the asset(s) from the clipboard to the current bin.

The Paste operation is accessed in the same way as Cut.

**NOTE:** *If an asset is locked or in use, it remains in the existing bin, while the remaining assets are moved to a new bin with the specified name.*

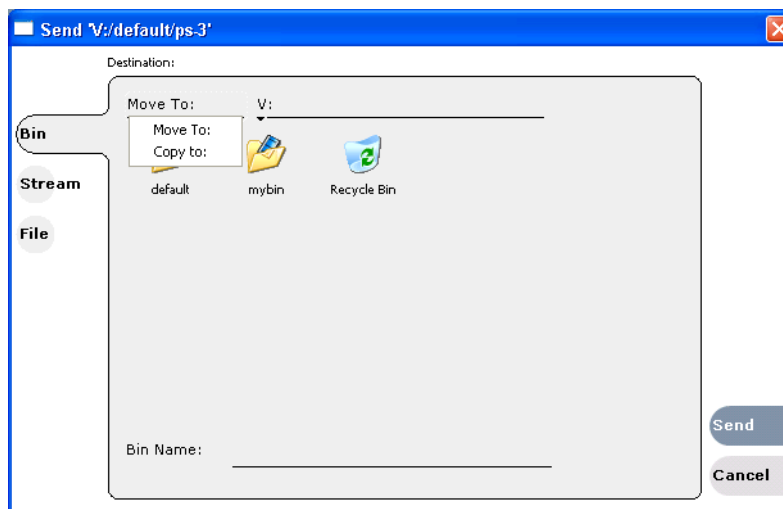


### Using Send To

1. Select the asset(s) in the [Asset List](#).
2. To open the Send To dialog box using do one of following:
  - Select **Clips | Send To**, or
  - Select **Send To** in the [asset context menu](#), or
  - Click the **Send To** button in the Clips Pane.  
If the Send To button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “[Guide to using the Clips Pane](#)” on page 214.

The Send dialog box appears.

3. Click the Bin tab.
4. Select **Move to** in the right-hand drop-list.



5. Select the target bin name.
6. Click the **Send** button to close the Send dialog box, and move the file.

*Move is a background task and can be monitored using the Transfer Monitor. Refer to “[Monitoring media file transfers](#)” on page 124.*

### Copying an asset

The copy command creates a new asset that references the same media files belonging to the original asset. Copying an asset does not duplicate the media files. Copying does not impact the media storage space available.

The naming convention for copied assets in the same bin adds an underscore (“\_”) and a number after the original name. For example, the copied clip for “Clip1” will be “Clip1\_1”, “Clip1\_2” and so on.

You can copy or move assets in two ways, as follows:

### Using the copy and paste commands

1. Select the asset(s) in the [asset list](#).
2. Copy the asset to the clipboard using one of the following:
  - Select **Copy** in the [asset context menu](#), or
  - Select **Edit** in the AppCenter toolbar, then choose **Copy**.
  - Use the keyboard shortcut **Ctrl + C**.
3. If needed, change the current bin to the target bin. (Refer to “[Changing current bin using 'Look in' drop-down list.](#)” on page 221.)
4. Paste the asset(s) from the clipboard to the current bin.

The Paste operation is accessed in the same way as Copy.

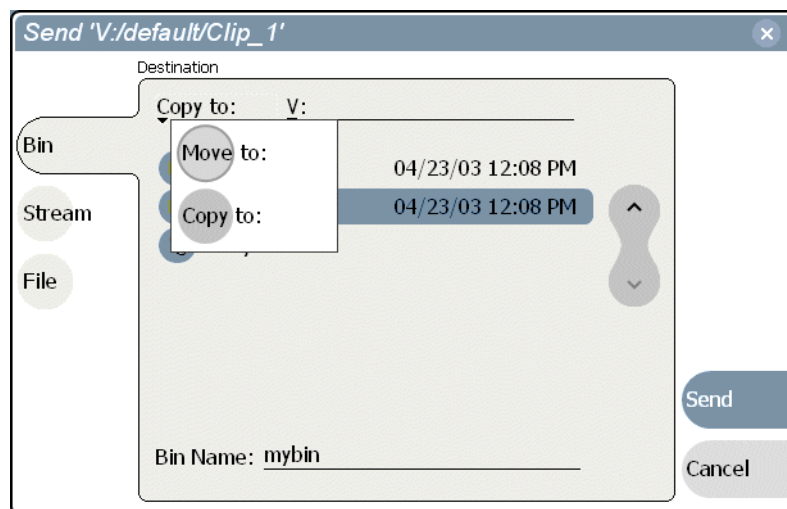
**NOTE:** If an asset is locked or in use, it remains in the existing bin, while the remaining assets are moved to a new bin with the specified name.

### Using Send To

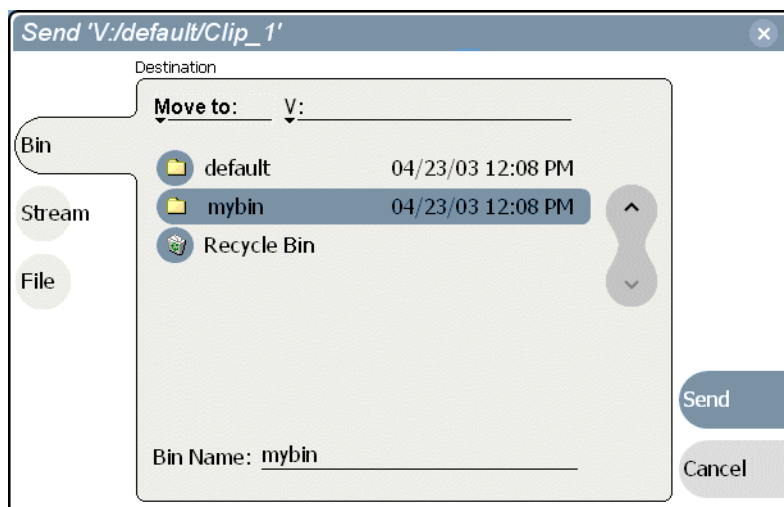
1. Select the asset(s) in the [Asset List](#).
2. To open the Send To dialog box using do one of following:
  - Select **Clips | Send To**, or
  - Select **Send To** in the [asset context menu](#), or
  - Select the **Send To** button in the Clips Pane.If the Send To button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “[Guide to using the Clips Pane](#)” on page 214.

The Send dialog box appears.

3. In the Send dialog box, click **Bin**, then **Copy to** in the left-hand drop-list.



4. Select the target bin name.



5. Click the **Send** button to close the Send dialog box and copy the file.

**NOTE:** Copy is a background task and can be monitored using the Transfer Monitor. Refer to [“Monitoring media file transfers” on page 124](#).

## Deleting an asset

You can delete assets to free storage space. You can safely delete a clip without harming the subclips, playlists, and programs created from it. The media referenced by subclips, playlists, and programs is preserved when the clip is deleted. Once the source clip is deleted, subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.

Deleted assets are moved to the Recycle Bin unless the bypass Recycle Bin option is used. (See [“Bypassing the Recycle Bin when deleting” on page 230](#).) You must empty the Recycle Bin to free storage space.

To delete an asset:

1. Select the asset or assets in the [Asset List](#).
2. Select **Delete** using one of the following:
  - Select **Clips | Delete**, or
  - Select **Delete** in the [asset context menu](#), or
  - Click the **Delete** button in the Clips Pane.  
If the Delete button is not displayed in the Clips Pane, refer to [assignable buttons](#) in [See “Guide to using the Clips Pane” on page 214](#).

A progress dialog appears when deleting multiple assets. If the selected asset is contained in the Recycle Bin, it is permanently removed; otherwise, it is moved from its original bin into the Recycle Bin. If an item of the same name is already in the Recycle Bin, the new item is automatically renamed. (See also [See “Bypassing the Recycle Bin when deleting” on page 230](#).)

**NOTE:** Assets that are locked or in use cannot be deleted.

## Erasing a clip's unused media

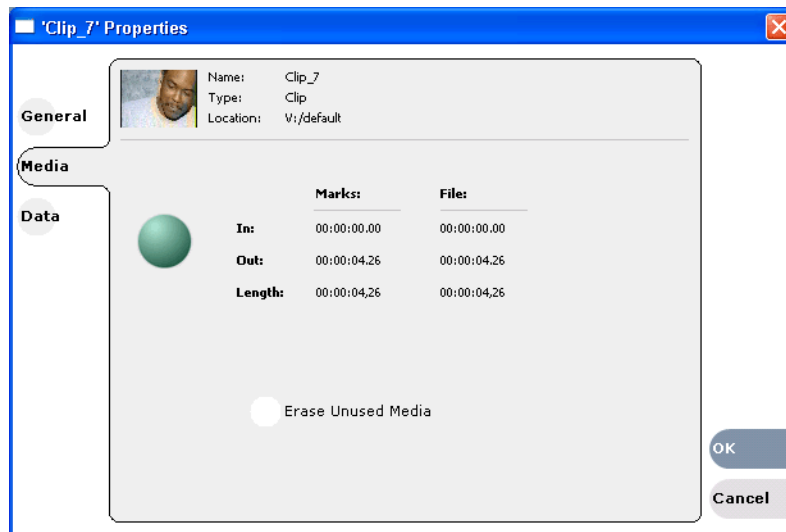
After editing a clip by moving the mark-in/mark-out points, the remaining portion of media outside the marks can be erased to free media storage space. If the media outside the clip marks is referenced by a subclip, program, or event from a playlist, that media is not erased. Subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.

To erase unused media:

1. Select the clip in the [asset list](#).
2. Open the Clip Properties dialog box using one of the following:
  - Select **Clips | Properties**, or
  - Select **Properties** in the [asset context menu](#), or
  - Click the **Properties** button in the Clips Pane.

If the Properties button is not displayed in the Clips Pane, refer to [assignable buttons](#) in [See “Guide to using the Clips Pane” on page 214](#).

The Clip Properties dialog appears.



3. In the Clip Properties dialog box, click **Media**.
4. On the Media page, select the **Erase Unused Media** option.
5. Click **OK**.

Unused media is erased when you click the **OK** button and the Properties dialog box is closed. After erasing unused media, the following is true:

- Media outside the clip marks is erased except that portion referenced by a subclip, playlist event, or program.
- All subclips and events generated from the source clip will retain 1 second of media before the mark-in and after the mark-out.
- Event-in becomes the first video frame of the file

- Event-out becomes the last video frame of the file
- Clip length becomes the total file length.

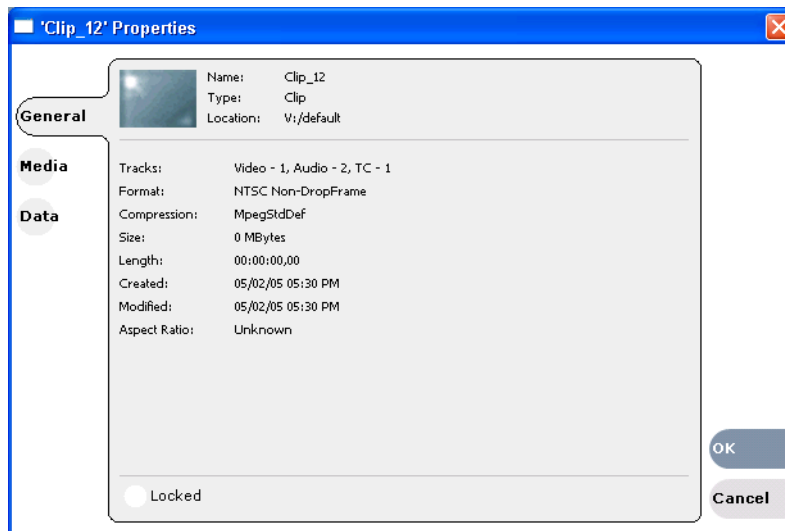
### Locking an asset

Locked assets cannot be renamed, deleted, or modified in any way.

To lock an asset:

1. Select the asset in the [Asset List](#).
2. To view the Properties dialog box for the selected asset, do one of the following:
  - Select **Clips | Properties**, or
  - Select **Properties** in the [asset context menu](#), or
  - Click the **Properties** button in the Clips Pane.  
If the Properties button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “[Guide to using the Clips Pane](#)” on page 214.

The Asset Properties dialog appears:



3. Click the General tab, then select the **Locked** check box to lock the asset.
4. Click **OK** to close the Properties dialog.

## Working with the Recycle Bin

Topics in this section:

- “[Viewing the Recycle Bin contents](#)” on page 229
- “[Emptying the Recycle Bin](#)” on page 230
- “[Bypassing the Recycle Bin when deleting](#)” on page 230

### Viewing the Recycle Bin contents

- In the Clips Pane, select the Current Bin label **Look in:** [V:/default](#), then select **Recycle**

### Bin.

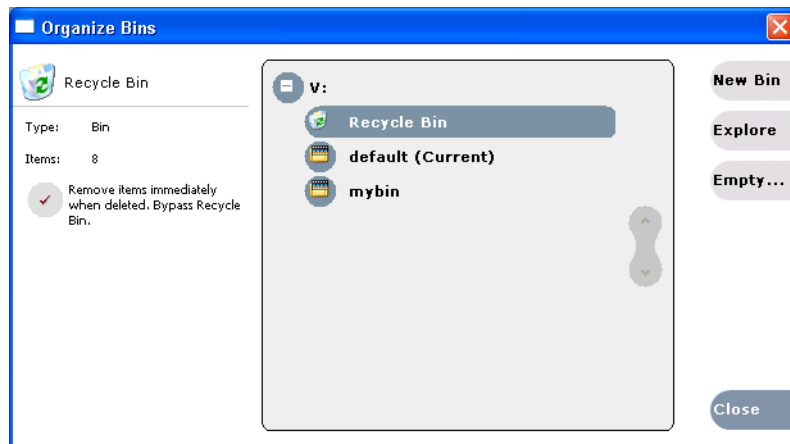
The Recycle Bin assets are displayed in the asset list as the current bin. You can work with assets in the Recycle Bin just like any other bin.

### Emptying the Recycle Bin

1. In the Clips Pane, select the Current Bin label **Look in:** `V:/default`, then select the **Organize Bins**.
2. In the Organize Bins dialog box, select **Recycle Bin** from the bin list.
3. Click **Empty**, then **Yes** to confirm.
4. Close the Organize Bins dialog.

### Bypassing the Recycle Bin when deleting

1. In the Clips Pane, select the Current Bin label **Look in:** `V:/default`, then select the **Organize Bins**.
2. In the Organize Bins dialog box, choose **Recycle Bin**.



3. Select **Remove items immediately when deleted**.

**NOTE:** Holding down the **SHIFT** key during delete also bypasses the Recycle Bin.

4. Close the Organize Bins dialog box.

### Locating assets

Three tools are provided for locating assets: Sorting, Search, and Links. You can set how assets are sorted by selecting the “sort by” attribute for the asset list. For example, you can sort by name, modified date, length, etc. The Search dialog box provides both basic search and advanced search modes for locating assets anywhere in the iDDR media storage. Advanced search mode allows you to define search criteria for assets based on user defined metadata. The Links dialog box helps you determine assets that are related. For example, you can locate the source clip used to generate a subclip, or you can determine if there are copies of a given clip.

Topics in this section include:

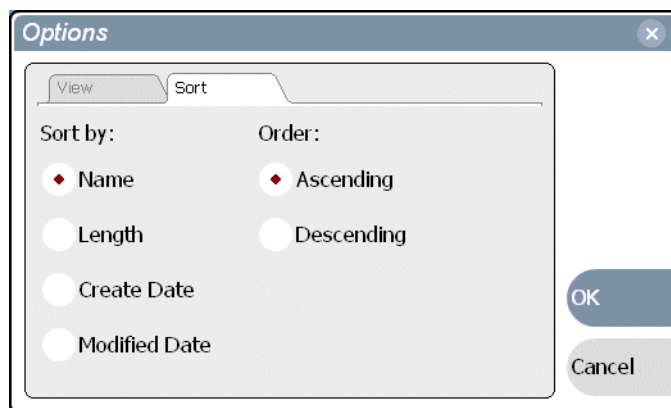
- [“Sorting assets in the Asset List” on page 231](#)
- [“Using Basic search” on page 231](#)
- [“Viewing recent search results” on page 234](#)
- [“Using Advanced Search” on page 234](#)
- [“Advanced Search Criteria” on page 236](#)
- [“Finding linked assets” on page 236](#)

## Sorting assets in the Asset List

You can sort assets by file attributes such as date, name, length, and create date using the Options dialog box.

To change how assets are sorted:

1. Open the Options dialog box using one of the following methods:
  - Select **Clips | Options**, or
  - Right-click an asset, then select **Options** in the [asset context menu](#), or
  - Click the **Options** button in the Clips Pane.  
If the Options button is not displayed in the Clips Pane, refer to [assignable buttons](#) in [“Guide to using the Clips Pane” on page 214](#).
2. Click the **Sort** tab in the Options dialog box.



3. Choose the desired sorting attribute and order, then click **OK**.

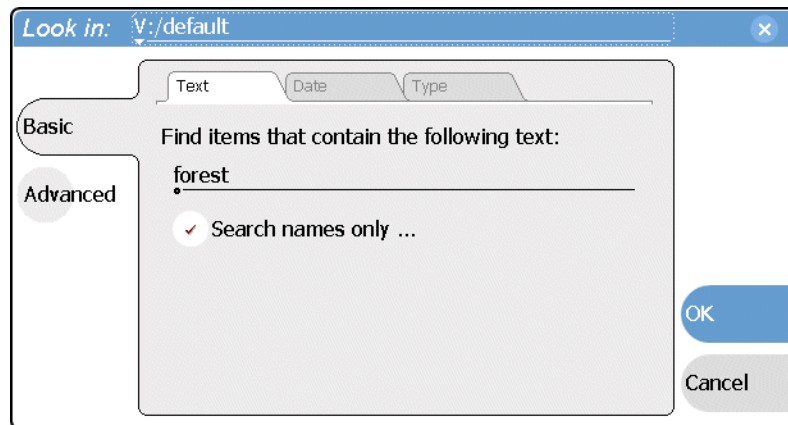
The Asset List sorts in the order specified.

**NOTE:** When assets are added or renamed, assets may not remain listed according to the selected sort order. To re-sort the assets, repeat this procedure, or press F5 to refresh the Asset List.

## Using Basic search

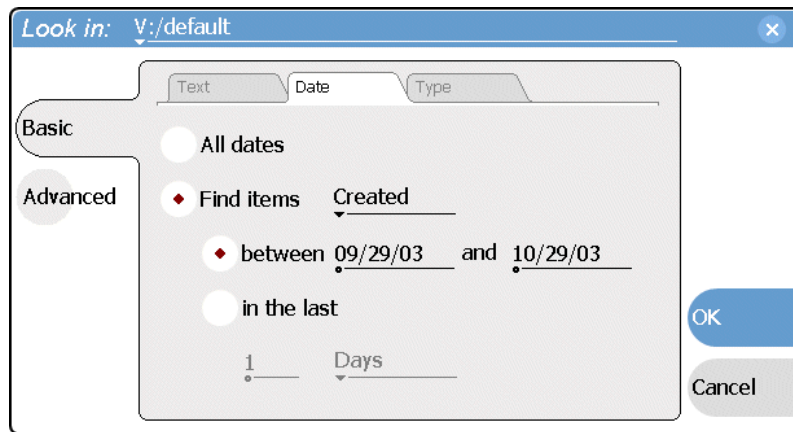
The Search dialog box provides the basic search mode for locating assets anywhere in the iDDR media storage.

1. Open the Search dialog box by doing one of the following:
  - Select **Clips | Search**, or
  - Click the **Search** button in the Clips Pane.  
If the **Search** button is not displayed in the Clips Pane, refer to assignable buttons in [“Guide to using the Clips Pane” on page 214](#).
2. Choose **Basic** search, then specify search criteria on the **Text**, **Date** and **Type** tabs.  
The search is performed using the combination of search criteria on all three tabs.  
**Search by text** – If you know all or part of an asset name, use the **Text** tab. Select the text entry control, then type all or part of the asset name in the “Enter Search Text” dialog box. The default text search mode is “any word” or “word portion”. For example, if you enter the word *fire*, search will find all asset names that contain fire, for example, *fires* and *house fire*. For an “exact phrase” search, use a single quote or double quote to specify the phrase. For example, if you enter “*forest fire*”, search will locate all asset names that contain the phrase *forest fire*.  
If the **Search names only...** option is selected, the search is applied to asset names. If not selected, the search includes all asset metadata. Refer to [“Working with asset metadata” on page 238](#).

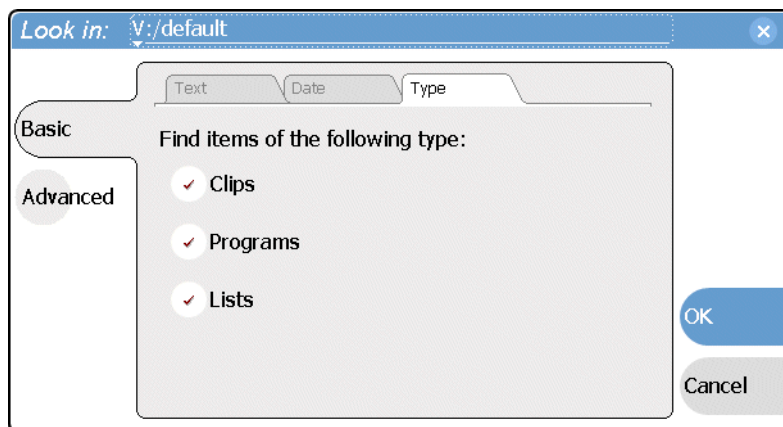


- Search by date** – If you are searching for assets created or modified within a specific date or time range, use the **Date** tab. By default, the **All Dates** box is selected. To specify date criteria, select the **Find items** option to enable the controls under it. Use the drop-down list to choose **Created** or **Modified**, then do one of the following:
- Select the **between** option, and then specify a date range. Click the edit control to display a calendar for easy input.
  - Select the **in the last** option, and then use the drop-down lists to specify a time within a recent number of minutes, hours, days, or months.



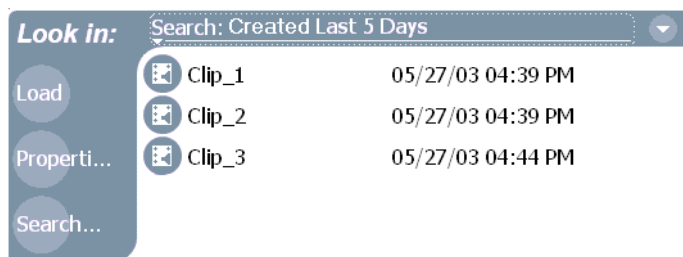


**Search by Type** – In the **Type** tab, select the type of assets— clips, programs or lists to be searched. Search results will only include the selected types.



3. Once you have selected the search criteria, click **OK** to start the search.

The search results are displayed in the Clips Pane. The text in the Current Bin control is replaced with a brief summary of the search. For example, *Search: movie* - indicates all the clips, programs and lists with names like movie1, movie2, or *Search: Created Last 5 Days* for assets created in the last 5 days.



### Viewing recent search results

The last four search results are retained. You can view the most recent search results using the Current Bin label.

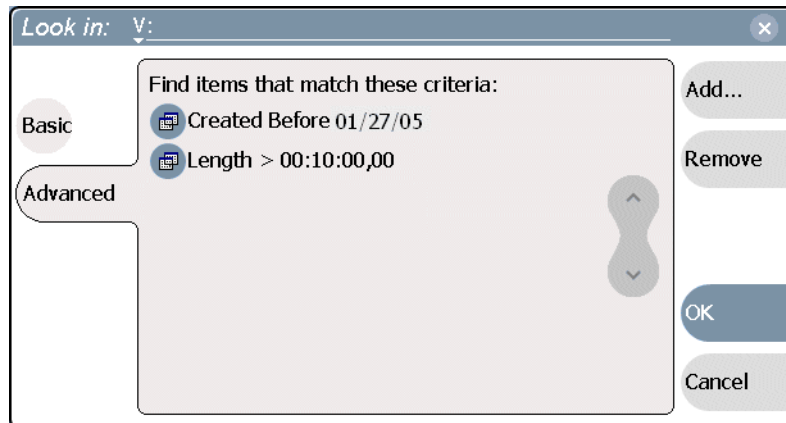
- Select the **Current Bin** label **Look in:** `V:/default`, then choose a search result.



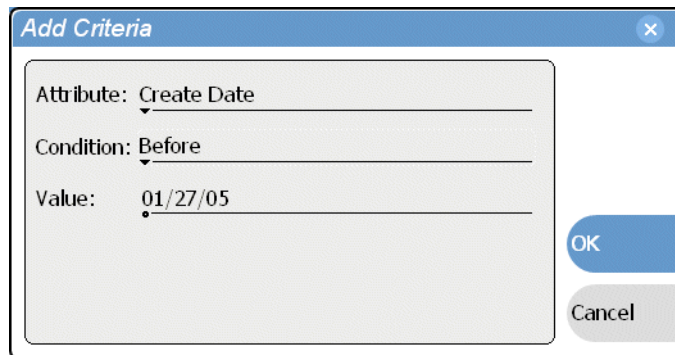
### Using Advanced Search

The Search dialog box provides the advanced search mode which provides an extended set of attributes for locating assets anywhere in the iDDR media storage.

1. Open the Search dialog box by doing one of the following:
  - Select **Clips | Search**, or
  - Click the **Search** button in the Clips Pane.  
If the **Search** button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “[Guide to using the Clips Pane](#)” on page 214.
2. Choose **Advanced** search to create and view advanced search criteria.  
When Advanced search is used, Basic search criteria is ignored.



3. Click **Add** to add new search criteria, or click **Remove** to remove it, then click **OK** to start the search.

A screenshot of a software dialog box titled "Add Criteria". The dialog has a blue header bar with a close button (X) in the top right corner. The main area is a light gray rectangle containing three labeled input fields: "Attribute:" with the value "Create Date", "Condition:" with the value "Before", and "Value:" with the value "01/27/05". Each field has a small downward arrow indicating a dropdown menu. To the right of these fields are two buttons: a blue "OK" button and a gray "Cancel" button.

Attribute: Create Date

Condition: Before

Value: 01/27/05

OK

Cancel

The following table lists the advanced search attributes along with their conditions and value choices. Advanced searches can include metadata attributes. Since these are user defined, only their types and conditions are listed here. See also [“Working with asset metadata” on page 238](#).

## Advanced Search Criteria

Attributes	Conditions	Value	Value
Name	Like/Not Like	Name	N/A
Type	Is/Is Not	Clip Program List	N/A
Compression Format	Is/Is Not	DV25 MPEG	N/A
Video Standard	Is/Is Not	NTSC PAL	N/A
Create Date	Between Before After	Date 1 Date Date	Date 2
Modified Date	Between Before After	Date 1 Date Date	Date 2
Length	Greater Than Less Than Between Equals	Length Length Length Length 1	Length 2
Locked	Is	True/False	N/A
Drop-frame timecode	Is	True/False	N/A
Data Type	Conditions	Value	Value
<b>Metadata</b>	String	Like/Not Like	A string N/A
	Integer Float	Greater Than Less Than Equals Between	A number N/A
	Date	Between Before After	Date 1 Date Date Date 2
	Boolean	Is	True/False N/A

- Once you have added all the search criteria, click **OK** to add the criteria.
- Click **OK** to start the search.

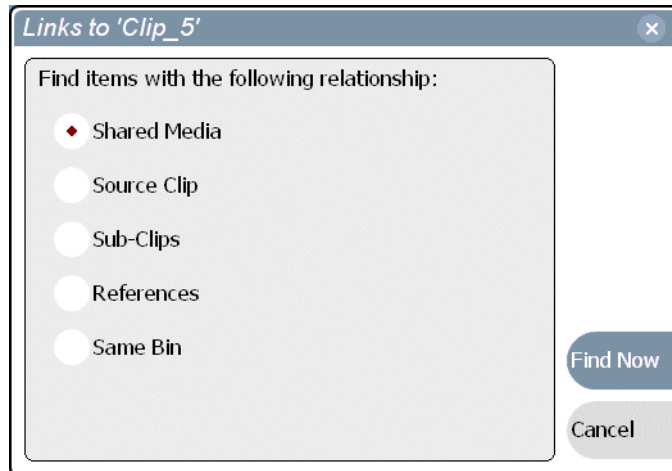
The search results are displayed in the Clips Pane. The text in the Current Bin control is replaced with a brief summary of the search.

## Finding linked assets

The Links dialog box helps you locate assets that are related based on the links criteria that you can specify.

- In the asset list, select the asset for which you want to find linked assets.
- Open the Links dialog box by performing one of the following steps:

- Select **Clips | Links**, or
- Right-click an asset, then select **Links**, or
- Click the **Links** button in the Clips Pane.  
If the Links button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “Guide to using the Clips Pane” on page 214.



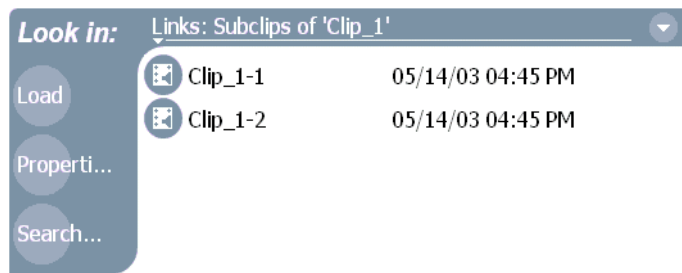
3. Choose one of the link relationships to use.

Link Relationship	Description
Shared media	Find all assets that reference the same media files, i.e., the same video, audio, timecode files in the media file system.
Source clip	Find the source clip from which a subclip was created.
Subclips	Find all subclips created from the selected clip.
References	When a playlist or program is selected, find all the assets that are referenced by the playlist or program. When a clip is selected, find all the playlists and events that reference that clip.
Same bin	Generate a list of assets that are located in the same bin

4. Click **Find Now**.

The results of the link operation are displayed in the Clips Pane. The text in the Current Bin label is replaced by a brief summary of the links operation.

**NOTE:** Unlike the search results, link results are not cached. You must perform the Links operation each time to discover linked assets.



## Working with asset metadata

The properties dialog box displays information about an asset as described in [“Viewing asset properties” on page 242](#). The properties dialog box also includes a user defined metadata feature that allows you to define and add your own information about an asset. You can specify the metadata name, data type, and value.

The metadata you add for one asset automatically appears on properties pages for all existing and future assets, except with no value entered. The values you specify for an asset are retained with the asset for the following operations: copy, move, and send to. The metadata you define for an asset can be used as search criteria in advanced search.

Metadata types and their possible values are described in the following table.

Data Type	Value	Example: Name/Value
String	User defined string	Producer: John Doe
Integer	An integer value	Episode: 4
Float	A number expressed in floating point	Version: 1.2
Date	Date	Air Date: 10/31/03
Boolean	True or False	QA: False

Topics in this section include:

- [“Adding and modifying asset metadata” on page 238](#)
- [“Clearing metadata” on page 240](#)
- [“Deleting asset metadata” on page 241](#)

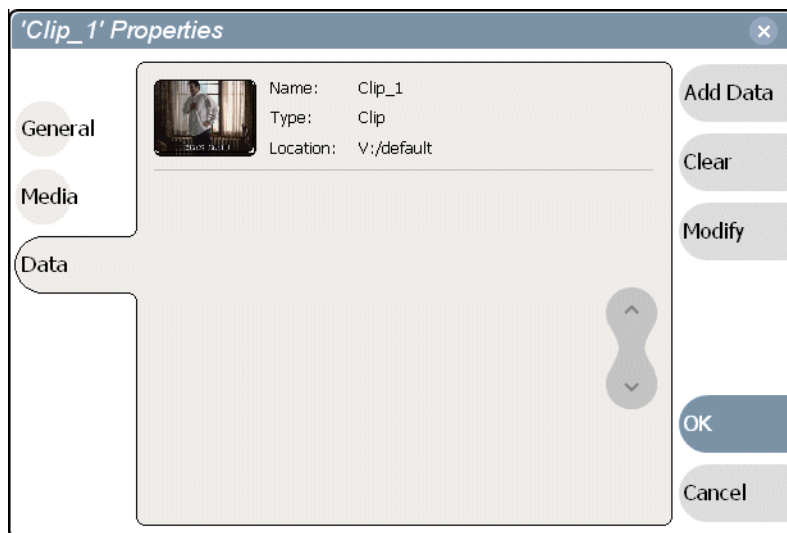
## Adding and modifying asset metadata

Use the following steps to add or modify metadata in the properties dialog box. The metadata names you add will appear in the properties dialog box for all assets. See also [“Deleting asset metadata” on page 241](#).

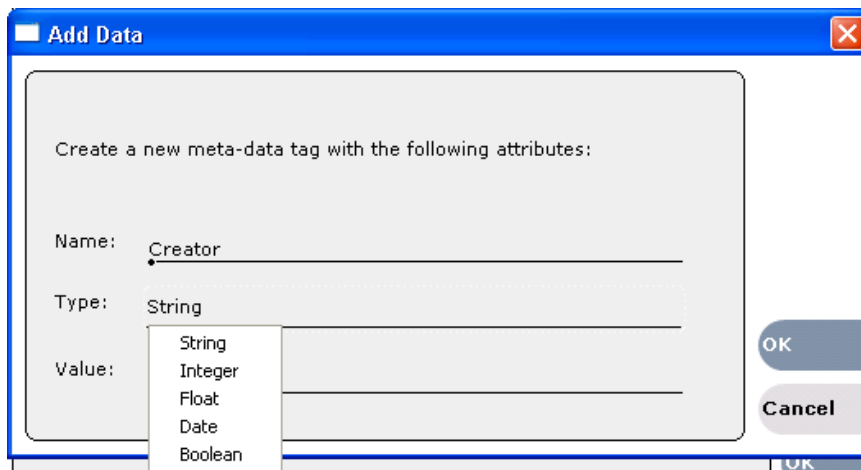
1. Select an asset in the Clips Pane asset list.
2. Open the Properties dialog box using one of the following methods:
  - Select **Clips | Properties**, or
  - Select **Properties** in the [asset context menu](#), or

- Click the **Properties** button in the Clips Pane.  
If the Properties button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “[Guide to using the Clips Pane](#)” on page 214.

The properties dialog box appears:



- Click the **Data** tab, then click **Add Data** or **Modify** on the data page.



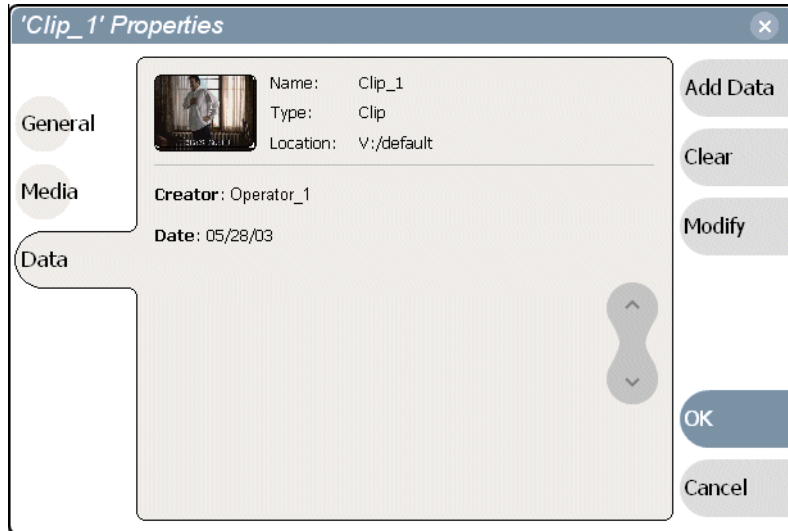
- Define or modify metadata using the following steps:
  - Select **Name**, then enter the metadata name in the Name dialog box.

Names are not case sensitive. “Episode” and “episode” are treated the same. You cannot modify names of existing metadata. See also “[Deleting asset metadata](#)” on page 241.

- Select **Type**, then choose a data type from the drop-down list.

**Metadata types** include: String, Integer, Float, Date, and Boolean. (Refer to “[Working with asset metadata](#)” on page 238.)

- c. Select **Value**, then enter a metadata value in the Value dialog box.
  - d. Click **OK** to close the Add or Modify dialog box and save changes.
- Your changes appear in the Properties dialog box for this and all other assets.



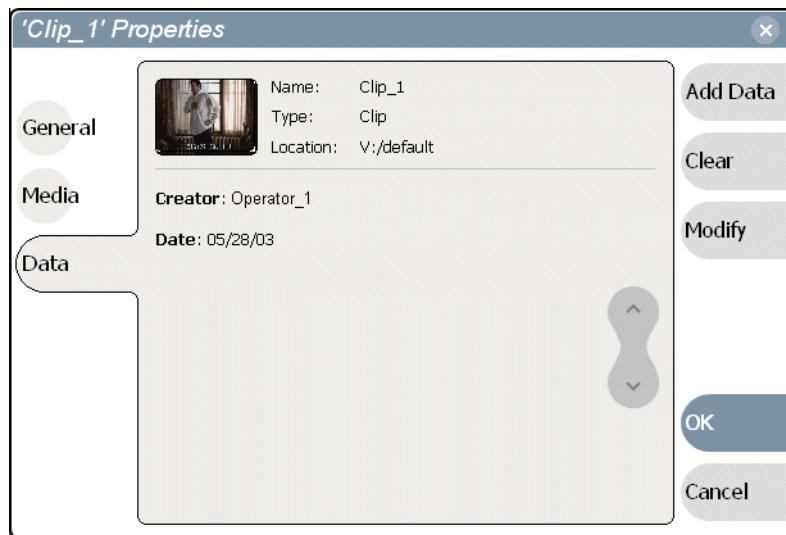
### Clearing metadata

Clearing metadata removes the value entered for the selected metadata, but does not delete the metadata name from the properties data page.

1. Select the asset in the Clips Pane asset list.
2. Open the Properties dialog box using one of the following:
  - Select **Clips | Properties**, or
  - Select **Properties** in the [asset context menu](#), or
  - Click the **Properties** button in the Clips Pane.  
If the Properties button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “Guide to using the Clips Pane” on page 214.

The properties dialog box appears:





3. Click the **Data** tab, then scroll to locate and select the metadata entry you want to clear.
4. Click **Clear**.
5. Repeat step 3 and step 4 to clear other metadata values.
6. Click **OK**.

If the metadata name is used by any other asset, that is, a value has been entered on another properties page, the metadata name will remain on all properties pages. See also, [“Deleting asset metadata” on page 241](#).

### Deleting asset metadata

You may need to delete a metadata name, that is, remove it from all properties pages when it becomes obsolete, or to repair a typographical error. There is no “delete metadata” feature, however, metadata names are checked every time you close a properties dialog box. If a metadata name is not being used, that is, no values are entered for the metadata name on any asset properties page, the metadata name is automatically deleted and removed from all metadata pages.

#### To delete a metadata name you just created:

1. In the asset Properties dialog box, click **Data**.
2. Select the metadata name you want to delete.
3. Click **Clear**.
4. Click **OK**.

The metadata name is removed from all asset properties pages since no metadata value exists for any asset.

**To delete a metadata name already in use**

To completely purge a metadata name, you must clear the metadata value on all asset properties data pages. When the last asset is cleared, and the properties dialog is closed, the metadata name is purged and removed from all properties pages. Refer to [“Clearing metadata” on page 240](#).

## Viewing asset properties

The properties dialog box varies depending on the asset.

- [“Viewing clip properties” on page 242](#)
- [“Viewing playlist properties” on page 243](#)
- [“Viewing program properties” on page 244](#)
- [“Viewing bin properties” on page 244](#)
- [“Viewing volume properties” on page 245](#)

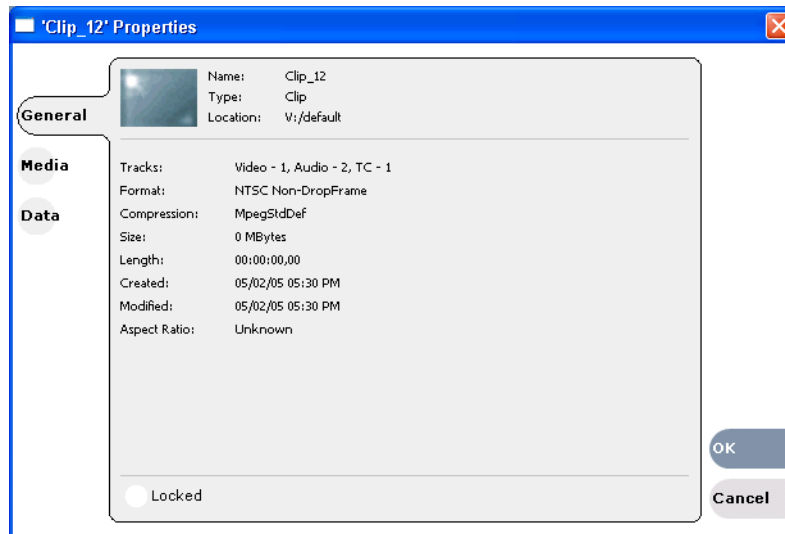
## Viewing clip properties

1. Select the clip in the Clips Pane [asset list](#).
2. Open the Clip Properties dialog box using one of the following:

- Select **Clips | Properties**, or
- Select **Properties** in the [asset context menu](#), or
- Click the **Properties** button in the Clips Pane.  
If the Properties button is not displayed in the Clips Pane, refer to [assignable buttons](#) in [“Guide to using the Clips Pane” on page 214](#).

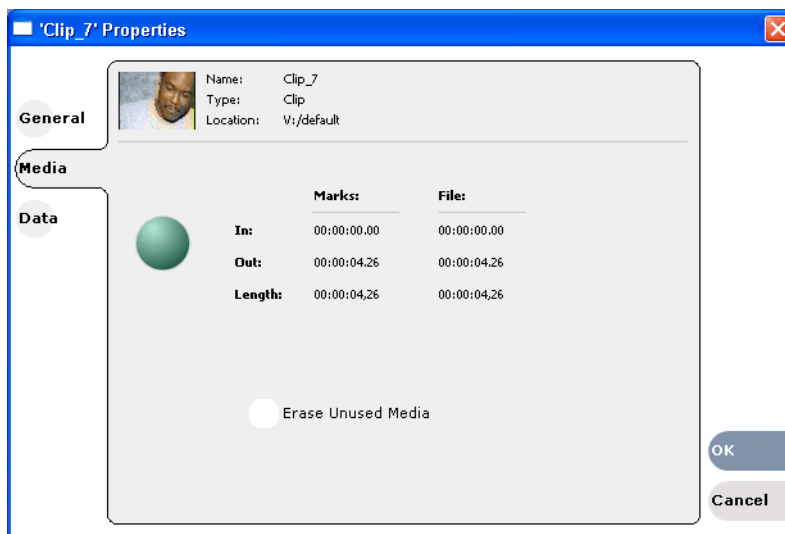
The Clip Properties dialog box appears. There are three pages in the clip dialog box. **General**, **Media**, and **Data**. The General and Media pages are self explanatory. The Data page is used to add metadata to the clip. To learn more, refer to [“Working with asset metadata” on page 238](#).

### Viewing the General properties page



### Viewing Media Properties page

The Media page displays all the relevant clip timecodes, including clip marks, and the first and last frame of the clip. A Time Dome gives a graphical display of the relative position of the marks within the recorded media.



### Viewing Data properties page

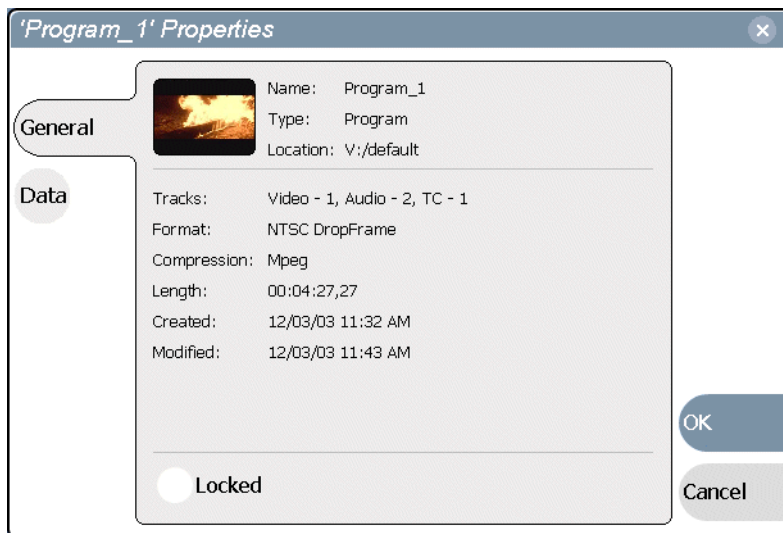
This page allows you to define your own metadata and specify values for that metadata. Refer to [“Working with asset metadata” on page 238](#).

### Viewing playlist properties

The playlist properties dialog box includes features that controlling list playback in the Playlist mode. Refer to [“To repeat or pause at the end of a section” on page 186](#) to learn about using the playlist properties dialog box.

### Viewing program properties

1. Select the program in the Clips Pane [asset list](#).
2. Open the Program Properties dialog box using one of the following methods:
  - Select **Clips | Properties**, or
  - Select **Properties** in the [asset context menu](#), or
  - Click the **Properties** button in the Clips Pane.If the Properties button is not displayed in the Clips Pane, refer to [assignable buttons](#) in “Guide to using the Clips Pane” on page 214.



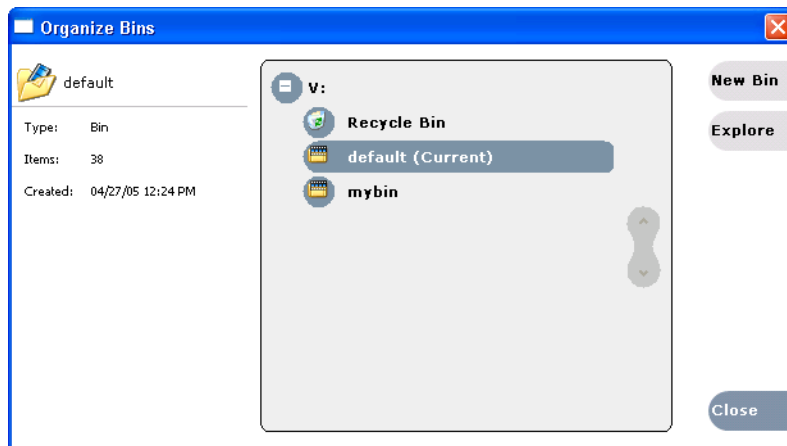
The Program Properties dialog box is displayed which has two pages, **General** and **Data**. The General page is self explanatory. The Data page is used to add metadata to the program. To learn more, refer to “[Working with asset metadata](#)” on [page 238](#).

### Viewing bin properties

1. In the Clips Pane, select the Current Bin label [Look in: V:/default](#), then select **Organize Bins**.

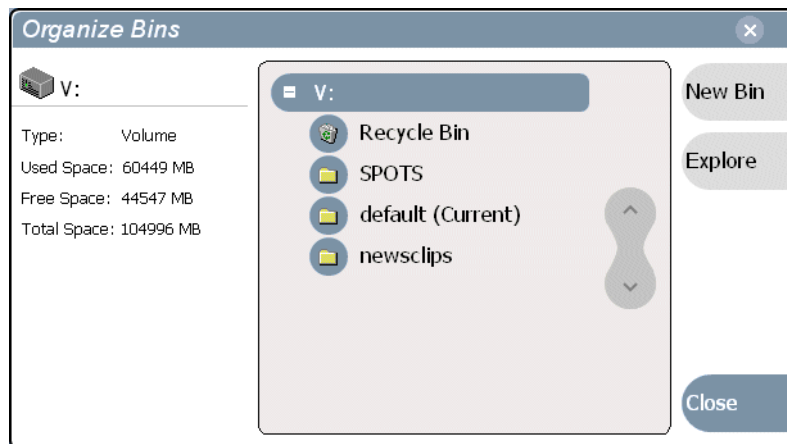


2. In the Organize Bins dialog box, select a bin. The bin properties are displayed in the Organize Bins dialog box.



### Viewing volume properties




1. In the Clips Pane, select the Current Bin label **Look in:** `V:/default`, then select **Organize Bins**.
2. In the Organize Bins dialog box, select a **disk volume**. The volume properties are displayed in the Organize Bins dialog box.



# Monitoring the system using the StatusBar




The StatusBar, located across the bottom of the AppCenter window, is used to display system and applications messages. In addition, the StatusBar includes several tool buttons as described in the following table.



Tool Name	Description
	Protocol Monitor This button appears when a channel is configured for remote control using a remote control protocol application. The Protocol Monitor button flashes when any protocol is successfully receiving serial control protocol commands. Clicking on the Protocol Monitor button opens the Protocol Monitor dialog box which shows the specific channel(s) receiving messages. See <a href="#">“Monitoring remote control communications” on page 268.</a>
	Transfer Monitor Appears during a file transfer or import/export operation. Selecting the button opens the Transfer monitor pane. See <a href="#">“Monitoring media file transfers” on page 207.</a>
	StatusPane Always appears on the StatusBar, however, the button symbol changes depending on the system status. <a href="#">“Interpreting StatusPane button icons” on page 246.</a>

## Interpreting StatusPane button icons

The StatusPane button always appears in the StatusBar. The button icon changes depending on the status of the trap messages. Selecting the StatusPane button opens the StatusPane which is used to view and manage status messages logged on the system.

Icon	Name	Description
	Default	All warnings and alert messages have been cleared.
	Warning	There is at least one warning message, and no alert messages.
	Alert	There is at least one uncleared alert message.

## Message types displayed in the StatusBar

The following table describes the message types that appear in the StatusBar. Typically, the StatusBar message area displays status messages for the selected channel, however, if a problem develops with the software application or a hardware subsystem, an error message is momentarily displayed and the symbol for the StatusPane button changes.

Message Type	Example Message
Channel Status Message	Clip loaded, clip recording, no clip loaded.
Channel Error Message	Media disks are full. Cannot record the clip.
Trap Summary Message	The system drive is at full capacity. Disk recorder operations will fail. Delete unused or temporary assets, and restart disk recorder.


## Using the StatusPane

The StatusPane is used to view detailed system messages including status, warning, and error messages. The StatusPane provides a central message area where status messages are listed. The StatusPane also includes subsystem status indicators, and the StatusPane menu button. The subsystem status indicators display a red X when an alert message for the subsystem is listed in the StatusPane. A yellow X is displayed when a warning messages is listed.

StatusPane Topics:

- [“Opening the StatusPane” on page 247](#)
- [“Showing iDDR software versions” on page 248](#)
- [“Managing messages in the Status Pane” on page 248](#)
- [“Closing the StatusPane” on page 248](#)
- [“Exporting log files” on page 249](#)


### Opening the StatusPane

- To open the StatusPane, click the StatusPane button  in the AppCenter StatusBar.

The StatusPane is displayed and you can view messages.



### Showing iDDR software versions

- Select the StatusPane menu button , then choose **Show Versions**. Software versions are displayed.

### Managing messages in the Status Pane

All messages are listed in the Status Pane. You may find it necessary to use the utilities found in the Status Pane menu to manage messages that appear in the Status Pane.

#### Copying messages to the clip board

1. Select the messages in the StatusPane.
2. Click **Copy**.

After copying the message, it can be pasted using standard Windows techniques.

#### Clearing messages

Clearing messages from the StatusPane clears the state of the subsystem indicators so they no longer display the alert and warning symbols.

- Click **Clear**.

All messages are removed from the StatusPane.

### Closing the StatusPane

- Click **Close**.



## Exporting log files

The procedures in this section describe how to export the Turbo iDDR and Windows operating system log files. The Turbo iDDR log files include all applications messages, the Windows Event Log, and messages related to managing the media file system. The exported log files can be sent to Thomson Grass Valley product support where they can be examined to analyze the operation of your iDDR.

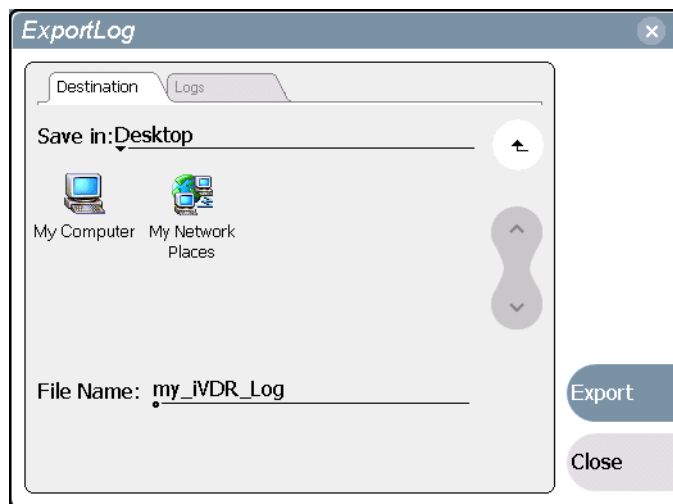
**NOTE:** *Export Log does not export StatusPane messages. To capture StatusPane messages, refer to “[Copying messages to the clip board](#)” on page 290.*

Use one of the following procedures to export the log files.

### Exporting log files using the StatusPane

1. Select **System | Export Log**.

The ExportLog dialog box is displayed.



2. In the ExportLog dialog box, browse to locate the destination directory.
3. Select the **File Name** edit control, then enter a file name for the exported log file.
4. Use the **Logs** tab to select the log files to export.
5. Click **Export**.
6. When the export confirmation message appears, click **OK**.
7. Retrieve the log files, and send them to Thomson Grass Valley support for analysis.

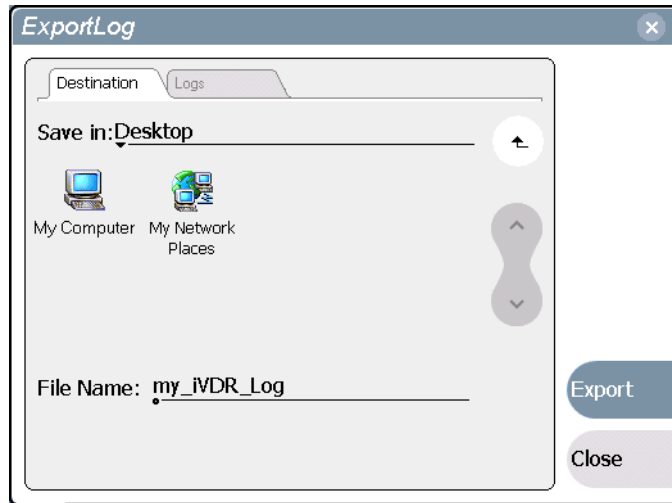
### Exporting log files using the Windows command line

This procedure allows you to export log files even if AppCenter does not start properly. It uses the Windows command prompt.

1. In the Windows task bar, select **Start | Run**.
2. Type the following in the Run dialog box, then click **OK**.

```
c:\profile\exportlog
```

The ExportLog dialog box is displayed.



3. In the ExportLog dialog box, browse to locate the destination directory.
4. Select the **File Name** edit control, then enter a file name for the exported log file.
5. Use the **Logs** tab to select the log files to export.
6. Click **Export**.
7. When the export confirmation message appears, click **OK**.
8. Retrieve the log files, and send them to Thomson Grass Valley support for analysis.

# Chapter 5

Chapter

## ***Remote Control***

---

Information in this chapter includes:

- [“Using remote control protocols” on page 252](#)
- [“Using GPI input and output triggers” on page 269](#)

## Using remote control protocols

You can control the iDDR using remote control devices and applications software developed for the Turbo iDDR that use industry-standard serial control protocols. You can enable remote control mode from either the front panel control mode, or workstation control mode.

Topics included here:

- [“About remote control and supported protocols” on page 252](#)
- [“Making RS-422 or Ethernet connections” on page 253](#)
- [“Remote control operation: In front panel mode” on page 254](#)
- [“Remote control operation: In Workstation mode” on page 255](#)

## About remote control and supported protocols

The following table shows the remote control protocols supported:

Supported Protocols	Comments
AMP	Advanced Media Protocol (AMP) - AMP is an extension of the Odetics protocol.
BVW	BVW Protocol - supports standard set of commands used for VTR machine control. BVW Insert Edit, used by most edit control panels, is not supported.

Refer to one of the following topics to enable remote control:

- [“Remote control operation: In front panel mode” on page 254](#)
- [“Remote control operation: In Workstation mode” on page 255](#)

## About AMP protocol support

You can use Advanced Media Protocol (AMP) to control iDDR record and play channels. This protocol is an extension of the Odetics protocol. External control devices can be connected via rear panel RS-422 serial connectors, or an Ethernet network connection.

### Two-Head Player Model

The AMP protocol supports the use of a *two-head player model* in that two clips are loaded simultaneously, as follows:

- **Current clip** — The AMP “preset id” is considered the current clip that controls channel resources.
- **Preview clip** — The AMP “preview preset id” is considered the preview clip. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.

**NOTE:** If you use AMP remote protocol to perform video network transfers, you must setup the video network and the Controller ID as described in the Installation chapter. Refer to [“Using an Ethernet connection” on page 271](#).

### AMP Local/Remote mode

In Workstation control mode, you can select **Protocol control only** or **Local and Protocol control**. The **Local and Protocol control** mode allows you to control the iDDR remotely, but also allows some local control at the same time.

**Protocol control only mode** – You can only monitor operations on the iDDR. You cannot perform *any* control operations locally. All control comes from the external device. The buttons, menu items, and other interface controls are disabled. From the local iDDR, you can see the control operations as they take place, but you can't control channel resources using the user interface on the iDDR.

**Local and Protocol control mode** – Both local and remote control are allowed. Control comes from the external device, but at the same time, all user interface controls are enabled.

Local and Protocol control mode is available only when remote control is enabled from Workstation mode. See [“Remote control operation: In Workstation mode” on page 255](#).

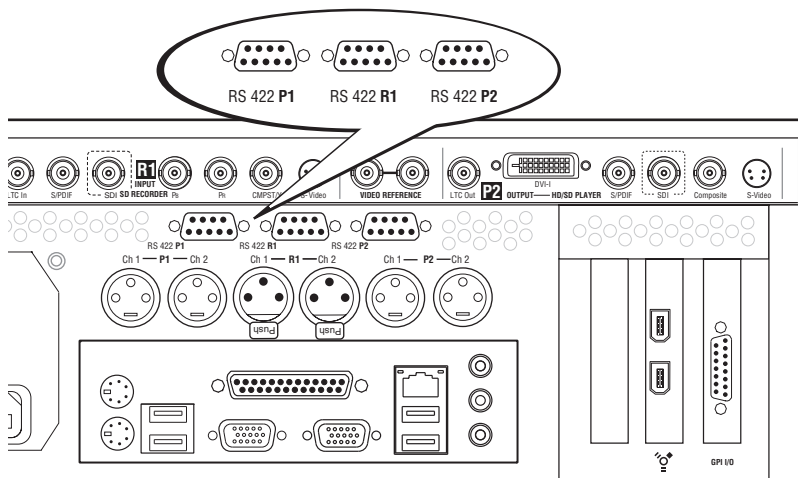
### About BVW protocol support

You can use BVW protocol to control iDDR record and play channels. External control devices can be connected via rear panel RS-422 serial connectors. The iDDR supports a standard set of BVW commands used for VTR machine control. BVW Insert Edit, used by some edit control panels, is not supported.

## Making RS-422 or Ethernet connections





Serial protocol control is available through three 9-pin RS-422 serial port connectors mounted on the iDDR rear panel, or through an Ethernet network connection (AMP only).

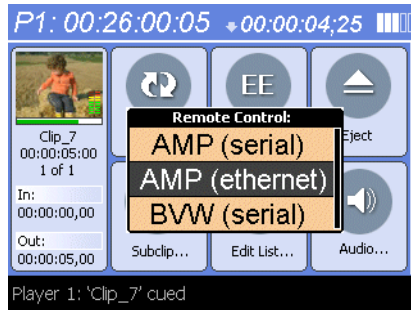
- To make RS-422 cable connections using the following diagram.
- To make Ethernet connections and configure the Ethernet network, refer to [“Using an Ethernet connection” on page 271](#).



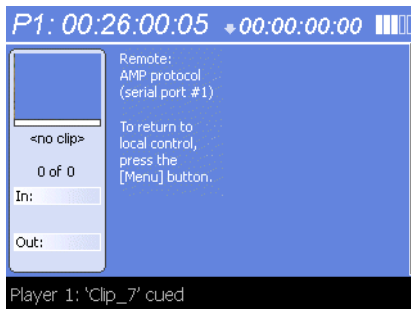
## Remote control operation: In front panel mode

You can configure a channel for remote control operation from front panel mode. If the channel is in use at the time, all channel activity is terminated and the current media is ejected prior to switching to remote control mode.

1. Press a channel button —  or  or .
2. Press **MENU** , then choose **Remote Control...** using the control knob.



3. Use the control knob to select the remote control protocol and control port.  
The channel switches to remote control mode. Press the **Menu** button to return to local control.



**NOTE:** To return a channel to front panel control mode, press the front panel **Menu** button.

## Remote control operation: In Workstation mode

You can configure a channel for remote control from either front panel mode or workstation mode. However, operating remote control from the Workstation mode provides extended features that allow local and remote control at the same time.

Topics in this section include:

- [“Enabling remote control from Workstation mode” on page 255](#)
- [“Guide to AMP Recorder: Protocol Only mode” on page 257](#)
- [“Guide to AMP Player: Protocol Only mode” on page 259](#)
- [“Guide to AMP Recorder: Local/Protocol mode” on page 261](#)
- [“Guide to AMP Player: Local/Protocol mode” on page 263](#)
- [“Using AMP Recorder: Local control tasks” on page 264](#)
- [“Using AMP Player: Local control tasks” on page 265](#)
- [“Using front panel transport controls” on page 268](#)
- [“Monitoring remote control communications” on page 268](#)

### Enabling remote control from Workstation mode

You can configure a channel for remote control operation from Workstation mode. If the channel is in use at the time, all channel activity is terminated and the current media is ejected prior to switching to remote control mode.

This procedure contains two sections:

- [“Select a control protocol” on page 255](#)
- [“Select the control port and control mode” on page 255](#)

#### Select a control protocol

1. If the Channel Pane is not already in split screen view, select **View | Split Screen**.
2. In the monitor pane, click the control mode drop-down list **Player** list for the channel, then choose a remote protocol.

The channel changes to remote control mode and becomes the selected channel.

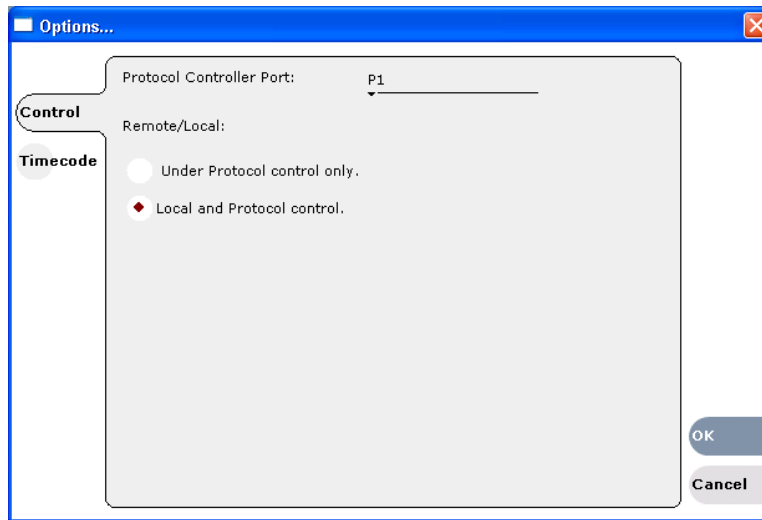
3. Proceed to [“Select the control port and control mode”](#).

#### Select the control port and control mode

After enabling remote control mode, you must select a control port and control mode—Protocol control only, or Local and Protocol control.

1. Click the channel monitor in the [Monitor Pane](#).
2. In AppCenter Workstation main menu, click **Player** or **Recorder**, as appropriate, then choose **Options**.

The Local/Remote dialog box is displayed.



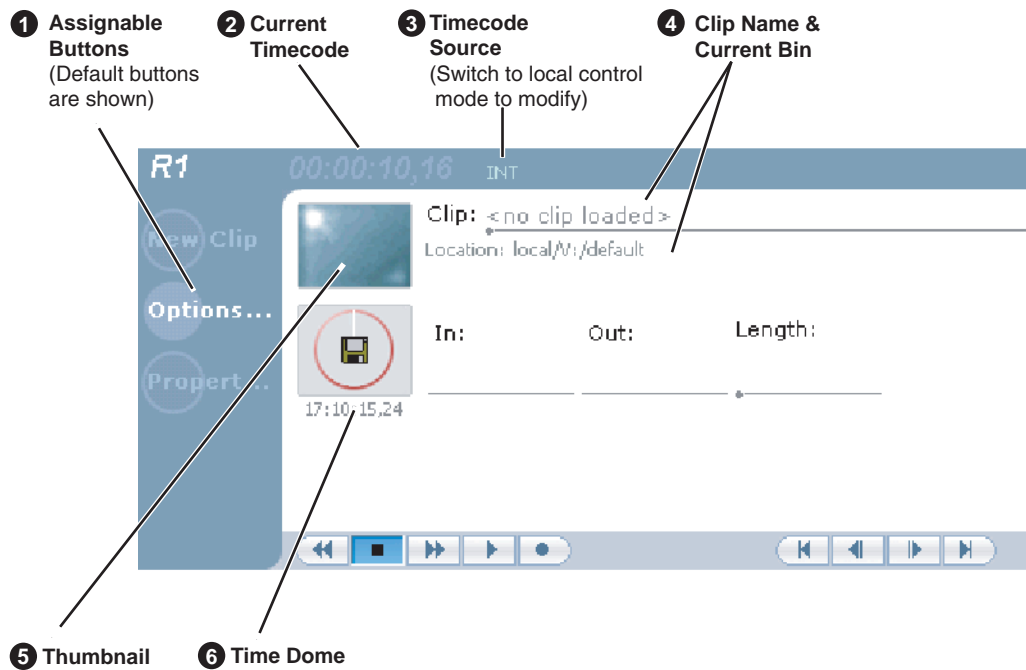
3. Select the remote control port as follows:
  - a. Temporarily set the Remote/Local option to **Local and Protocol control**.
  - b. Use the Protocol Controller Port drop-down list to choose a remote control port.  
You can select one of the RS422 ports (P1-P4), or the Ethernet port (AMP only).
4. If choosing AMP protocol, select the Remote/Local control option as required by your control system:
  - **Protocol control only** — Disables local control. The iDDR is controlled only from the remote device. The iDDR display is used to monitor the channel status and control operations as they take place remotely.
  - **Local and Protocol control** — Local control is enabled. You can use the AppCenter Workstation interface and front panel transport controls to control the channel even though remote control is enabled. With this setting, you must take care to avoid conflicts between local and remote control.
5. If you using AMP protocol to perform video network transfers, you must setup the video network and the *Controller Id* as described in the Installation chapter. Refer to [“Using an Ethernet connection” on page 271](#).
6. Test the system and recheck settings, if required.






### Guide to AMP Recorder: Protocol Only mode

The *Protocol control only* mode allows you to only monitor the record channel operations and view clip information. All control comes from the external device. The buttons, menu items, and other interface controls are disabled. You can select this mode by choosing the **Protocol control only** option in the Options dialog box. (See “Select the control port and control mode” on page 255.)

The following describes the controls and indicators in the *Protocol control only* mode.



Control	Description and User Operation
<b>1 Assignable Buttons</b>	The assignable button allows you to modify the button assignment to best suit your workflow. Holding down a button longer than one second opens the button pop-up menu which lists the alternative button choices. Button choices include <b>Options</b> or <b>Properties</b> . The buttons function the same as the context menu items.
<b>2 Current Timecode</b> <b>16:27:13;29</b>	Indicates the current timecode of the timecode source for recording. The timecode value of XX:XX:XX:XX is displayed if there is no input timecode.
<b>3 Timecode Source</b> <b>16:27:13;29 VTC</b>	The text displayed to the right of current timecode indicates the timecode source: LTC, or INT (internal generator). You must temporarily switch to <b>Local and Protocol control</b> mode to change the record channel timecode source.
<b>4 Clip Name and location</b> <b>Clip: Clip_4</b> Location: V:/newsclips	Displays the current clip's name and location in the media storage system.

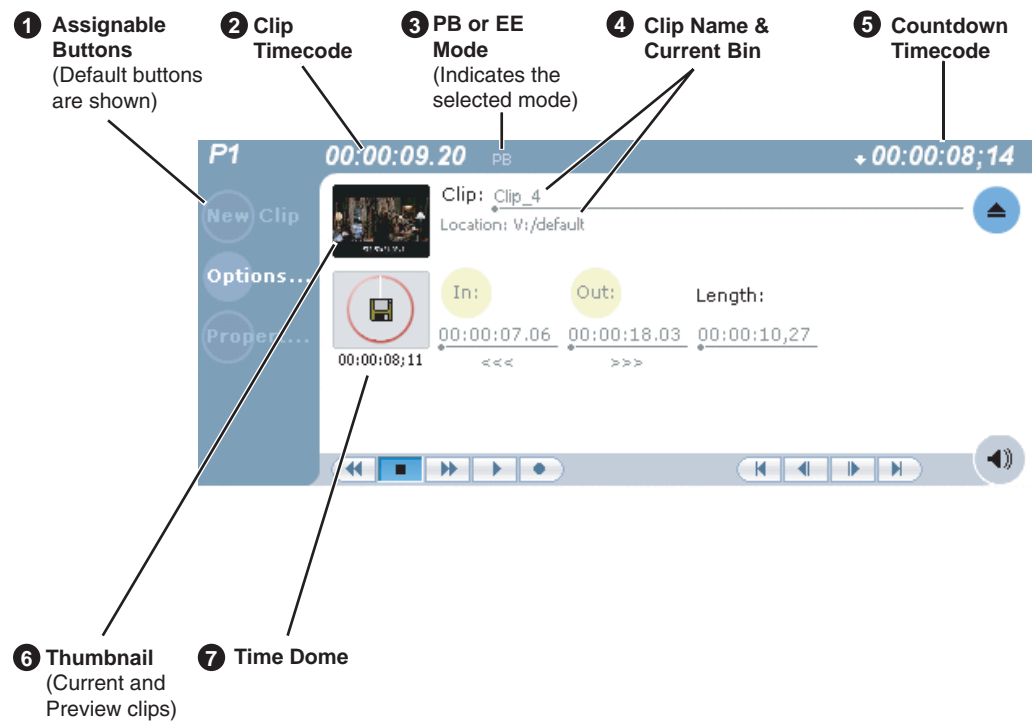
Control	Description and User Operation
<div><div>5</div><div>Thumbnail</div><div></div></div>	Used to visually identify the clip. By default, the thumbnail is generated using the 16th frame of video. The thumbnail image can be modified in Player.
<div><div>6</div><div>Time Dome</div><div><div><div></div><div>Progress Only</div></div><div><div></div><div>Progress and Available Storage</div></div></div><div>00:29:30,24</div></div>	This control indicator displays record progress and available storage. By default, the Time Dome indicates one revolution every 10 seconds, or one revolution during a fixed length recording. You must switch to local control mode to change the Time Dome display, then refer to <a href="#">“Displaying available storage space” on page 141</a> .

### Guide to AMP Player: Protocol Only mode





The *Protocol control only* mode allows you to only monitor play channel operations and view clip information. All control comes from the external device. The buttons, menu items, and other interface controls are disabled. You can select this mode by choosing the **Protocol control only** option in the Options dialog box. (See “[Select the control port and control mode](#)” on page 255.)

Channel status information displayed includes current clip timecode, current clip name, countdown to the preview clip, and preview clip name.

The following describes the indicators displayed *Protocol control only* mode.



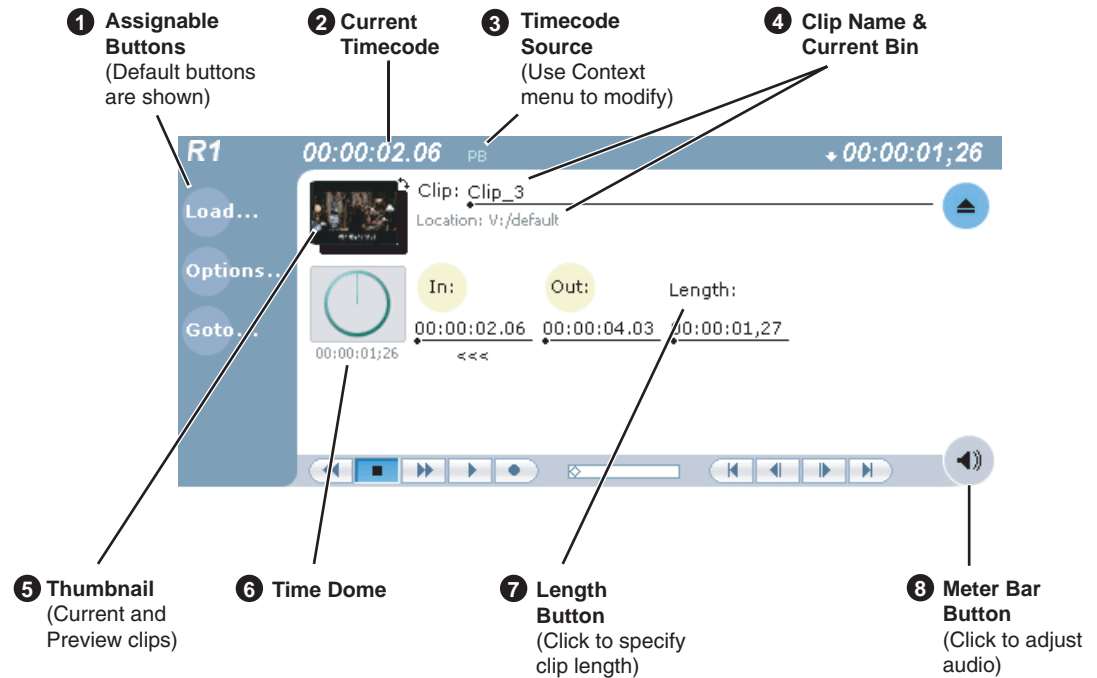
Control	Description and User Operation
<b>1 Assignable Buttons</b>	Assignable buttons allow you to modify the button assignment to best suit your workflow. Holding down a button longer than one second opens the button pop-up menu which lists the alternative button choices. Button choices include <b>Options</b> or <b>Properties</b> . The buttons function the same as the context menu items.
<b>2 Current Timecode</b> <b>16:27:13;29</b>	Indicates the current timecode of the timecode of the clip. The timecode value of XX:XX:XX:XX is displayed when there is no recorded timecode. See “ <a href="#">Striping timecode (replacing the timecode track)</a> ” on page 157.
<b>3 EE or Playback Selection</b> <b>16:27:13;29 EE</b>	The text displayed to the right of clip timecode indicates the playback mode selection: EE or PB. When E to E is selected, the play channel output switches to the record channel input when playback is stopped. When PB is selected, play channel output freezes on the last video frame. To select the playback mode, refer “ <a href="#">Selecting E-to-E mode</a> ” on page 150.

Control	Description and User Operation
<div>④</div> <div><b>Clip name and current bin</b></div> <div><div>Clip: <u>Clip_2</u></div><div>Location: V:/default</div></div>	Displays the clip's name and location in the video storage file system. In Status view you cannot rename the clip.
<div>⑤</div> <div><b>Countdown timecode</b></div> <div><div>⏮ 00:01:06;17</div></div>	Displays the time remaining for the clip loaded in player.
<div>⑥</div> <div><b>Thumbnail</b></div> <div></div>	Used to visually identify the current clip loaded in Player. When AMP and VDCP protocols are used, the thumbnail includes the current and preview clip. You can click or touch the thumbnail image to toggle between the preview and current clip thumbnails. This allows you to identify the preview clip before it plays. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.
<div>⑦</div> <div><b>Time Dome</b></div> <div><div><div>Progress only</div><div>00:00:03;23</div></div><div><div>Progress with media marks</div><div>00:00:02;15</div></div><div><div>Progress &amp; loop play enabled</div><div>00:00:08;21</div></div></div> <td>This control displays play progress, or play progress with media marks which shows the relative position of mark-in/mark-out points in the clip. The timecode underneath indicates play time remaining. The Time Dome is also used to enable and indicate loop play mode. You must temporarily switch to Local Control mode, then select and hold the Time Dome, and select <b>Loop Play</b> in the pop-up menu.</td>	This control displays play progress, or play progress with media marks which shows the relative position of mark-in/mark-out points in the clip. The timecode underneath indicates play time remaining. The Time Dome is also used to enable and indicate loop play mode. You must temporarily switch to Local Control mode, then select and hold the Time Dome, and select <b>Loop Play</b> in the pop-up menu.

## Guide to AMP Recorder: Local/Protocol mode

The *Local and Protocol control* mode allows you to control the record channel locally as well as remotely. You can select this mode by choosing **Local and Protocol control** in the Options dialog box. (See “[Select the control port and control mode](#)” on [page 255](#).)

The following describes the controls and indicators used in the *Local and Protocol control* mode.



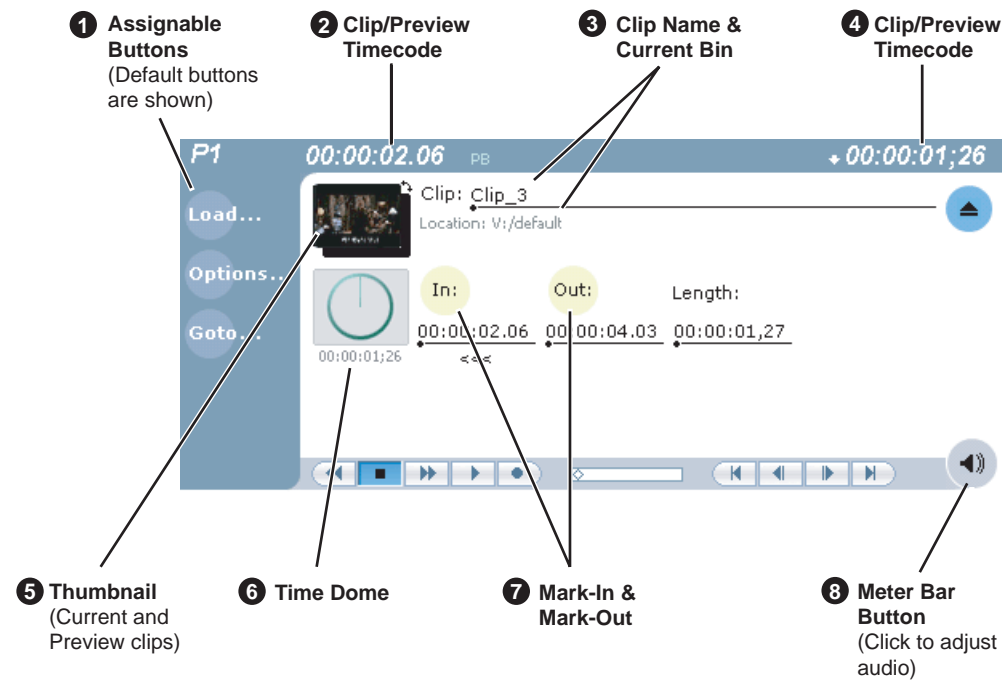
Control	Description and User Operation
<b>1 Assignable Buttons</b>	Assignable buttons allow you to modify the button assignment to best suit your workflow. Holding down a button longer than one second opens the button pop-up menu which lists the alternative button choices. Button choices include <b>New Clip</b> , <b>Options</b> , <b>Locate</b> and <b>Properties</b> . The buttons function the same as the context menu items.
<b>2 Current Timecode</b> 16:27:13;29	Indicates the current timecode of the timecode source for recording. The timecode value of XX:XX:XX:XX is displayed if there is no input timecode.
<b>3 Timecode Source</b> 16:27:13;29 VITC	The text displayed to the right of current timecode indicates the timecode source: VITC, LTC, or INT (internal generator). See “ <a href="#">Changing the timecode source</a> ” on <a href="#">page 138</a> .
<b>4 Clip Name Edit Control</b> Clip: Clip_1 Location: V:/default	Displays the clip’s name and location in the media storage system. To rename the clip, touch or click the Clip Name, then use the onscreen or external keyboard to enter text. To change the current bin, i.e. the target location for recording clips, refer to “ <a href="#">Changing the current bin</a> ” on <a href="#">page 139</a> .

Control	Description and User Operation
<div><div>5</div><div>Thumbnail</div><div></div></div>	Used to visually identify the clip. By default, the thumbnail is generated using the 16th frame of video.
<div><div>6</div><div>Time Dome</div><div><div><div>Progress Only</div></div><div><div>Progress and Available Storage</div></div></div></div> <div>00:29:30,24</div>	This control indicator displays record progress and available storage. By default, the Time Dome indicates one revolution every 10 seconds, or one revolution during a fixed length recording. Select the Time Dome, then choose Available Storage or Record Progress only. <a href="#">See “Displaying available storage space” on page 141.</a>
<div><div>7</div><div>Length</div><div></div></div>	Select the Length control to enter the clip length, then choose record. Recording continues until you choose stop, or the specified length is reached.
<div><div>8</div><div>Meterbar Button</div><div></div></div>	Displays the Meterbar which contains the audio record level controls and signal meters. Changes to the audio level are saved for the channel. <div></div>

Guide to AMP Player: Local/Protocol mode

The *Local and Protocol control mode* allows you to control a play channel locally as well as remotely to play clips. You can select this control mode by choosing **Local and Protocol control** in the Options dialog box. (See “[Select the control port and control mode](#)” on page 255.)

The following describes the controls and indicators displayed in the *Local and Protocol control mode*.



Control	Description and User Operation
<b>1 Assignable Buttons</b>	Assignable buttons allow you to modify the button assignment to best suit your workflow. Holding down a button longer than one second opens the button pop-up menu which lists the alternative button choices. <b>Goto</b> – Used to jump to a specific timecode in the current clip, or skip to the preview clip. See “ <a href="#">Skipping to the preview clip during playout</a> ” on page 267 and “ <a href="#">Jumping to a specific timecode</a> ” on page 267. <b>Load</b> – Opens the Load Clip dialog which displays the contents of the current bin. Select a clip, then choose OK to load. <b>Options</b> – Opens the Options dialog box used to select control mode and control port. See “ <a href="#">Select the control port and control mode</a> ” on page 255. –

Control	Description and User Operation
<b>2 Current Frame Timecode and Stop Mode.</b> 	<p>Indicates the recorded timecode of the current frame being played. The timecode value of XX:XX:XX:XX is displayed when there is no recorded timecode.</p> <p>The text displayed to the right of clip timecode indicates the playback mode selection: EE or PB. When E to E is selected, the play channel output switches to the record channel input when playback is stopped. When PB is selected, play channel output freezes on the last video frame. To select the playback mode, refer <a href="#">“Selecting E-to-E mode” on page 150.</a></p>
<b>3 Clip name &amp; Current Bin</b> Clip: <u>Clip_2</u> Location: V:/default	<p>Displays the current or preview clip’s name and location in the video storage file system. You can toggle between current and preview clip name by clicking the thumbnail image. To rename the clip, touch or click the clip name, then use the onscreen or external keyboard to enter a new name.</p>
<b>4 Countdown Timecode</b> 	<p>Indicates the time remaining for the clip.</p>
<b>5 Current and Preview Clip Thumbnail</b> 	<p>Used to visually identify the current clip loaded in Player. When AMP and VDCP protocols are used, the thumbnail includes the current and preview clip. You can click or touch the thumbnail image to toggle between the preview and current clip thumbnails. This allows you to identify the preview clip before it plays. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.</p>
<b>6 Time Dome</b>  Progress only  Progress with media marks  Progress & loop play enabled	<p>This control displays play progress, or play progress with media marks which shows the relative position of mark-in/mark-out points in the clip. The timecode underneath indicates play time remaining. The Time Dome is also used to enable and indicate loop play mode. Select and hold the Time Dome, then select <b>Loop Play</b> in the pop-up menu.</p>
<b>7 Set Mark-in and Set Mark-out</b> 	<p>These buttons are used to set new mark-in or mark-out points. Position the clip to the desired frame, then click or touch the In or Out buttons. Unused media is not deleted. To clear a mark, hold down the button for longer than one second, then choose Clear Mark in the pop-up menu. Marks are reset to the beginning or end of available media. See <a href="#">“Editing a clip” on page 154.</a></p>
<b>8 Meter Bar Button</b> 	<p>Displays the Meterbar which contains the audio play level controls and signal meters. Changes to the audio level can be saved with the clip. See <a href="#">“Adjusting clip audio level” on page 156.</a></p>

### Using AMP Recorder: Local control tasks

In local control mode, you can perform all the tasks locally that are available in the standard recorder application while the record channel is still under remote control. For a full description of all the tasks you can perform using the Recorder user interface, refer to [“Guide to using Recorder mode” on page 128.](#)



## Using AMP Player: Local control tasks

In local mode, the Player user interface operates just like the standard Player application. For a full description of all the tasks you can perform using the Player user interface, refer to [“Selecting Player mode in AppCenter” on page 143](#).

In addition, the following sections describe tasks that are unique to the AMP protocol player applications.

- [“Payout using current and preview clips”](#)
- [“Skipping to the preview clip during payout”](#)
- [“Jumping to a specific timecode”](#)


### Payout using current and preview clips

The AMP Player applications use a two-head model in that two clips are loaded simultaneously, as follows:

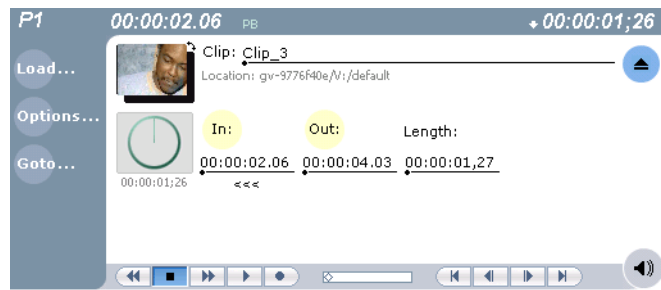
- **Current clip** — The “preset id” is considered the current clip that controls channel resources, i.e. video, audio, and timecode outputs.
- **Preview clip** — The “preview preset id” is considered the preview clip. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.

If you don’t need this functionality you can use the protocol player applications just like the standard player, loading and playing a single clip. See [“Loading media for payout” on page 149](#) and [“Playing a clip” on page 150](#).

To payout using current and preview clips:

1. Select **View | Split Screen**, if you are not in Split Screen view already.
2. Select a play channel using the front panel button , or the play channel tab in the Tools pane.
3. In the protocol player, click (or touch) the thumbnail image to place the current clip thumbnail in front of the preview thumbnail.
4. Load a clip from the Clips pane using one of the following:
  - Click (or touch) the clip and drag it to the Player pane.
  - Rotate the front panel **Selection Knob** to select a clip, then push in on the knob to load the clip.
  - Select the clip, then choose the **Load** button in the Clips pane.
  - Double-click on an clip.
  - Select a clip, then press Enter on an external keyboard.

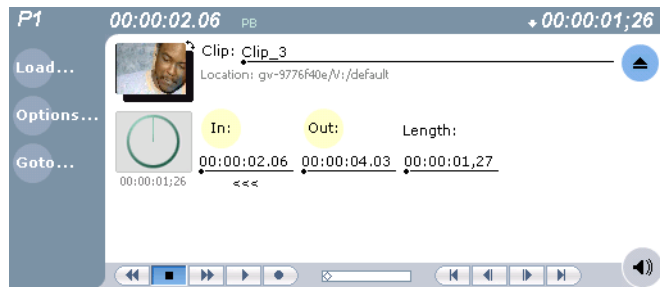
The clip is loaded as the current clip and the thumbnail appears.



**NOTE:** You can load a preview clip only if the Current (preset) clip is loaded.

5. Load the preview as described in the previous step 4.

The preview thumbnail appears behind the current clip thumbnail. You can click the thumbnail image to bring the preview image to the foreground without effecting current clip playback.



6. Start current clip playback using your remote control device or software.

When the current clip playback reaches its mark-out point, it is ejected and the preview clip is promoted to current clip and begins to play.

**NOTE:** You can toggle between current and preview clip thumbnails at anytime to identify the preview clip without affecting current clip playback.

7. Load a new preview clip (see step 5) to continue uninterrupted playback.

### Skipping to the preview clip during playout

During playout, you can skip to the preview clip.

- Select the **Goto** button in the player toolbar, then choose the **Skip to Preview** in the pop-up menu.

The play channel begins to play the preview clip.

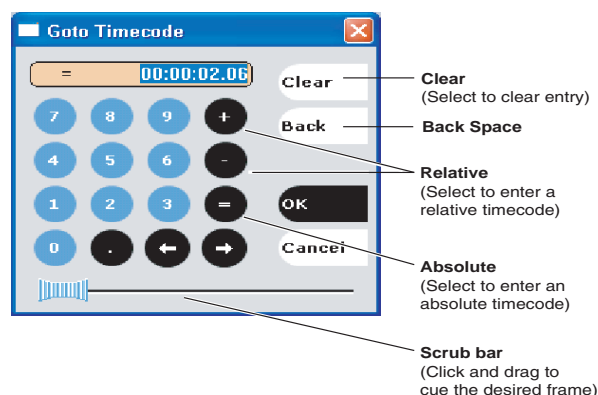
### Jumping to a specific timecode

The Goto Timecode dialog allows you to jump to the specific timecode in the current clip. You can enter absolute timecode values based on recorded timecode, or relative timecode values.


To jump to a specific timecode:

1. Select the **Goto** button in the player toolbar, then select the **Goto Timecode** menu item.

The Goto Timecode dialog appears.



2. Enter a timecode value using one of the following:


- To enter a *relative* timecode value, select the '+ or -' key, enter timecode, then select **OK**.
- To enter an *absolute* timecode value, select the '=' key, enter timecode, then select **OK**.
- Select and drag the **Scrub Bar**  while monitoring play channel output, then click **OK** to close.

## Using front panel transport controls

The following describes how to control playout using the transport controls on the optional front panel. The control application must be configured to allow local control. (See “Select the control port and control mode” on page 255.)

Front Panel Buttons	Action
Play	Play
Stop	Stop
Rew	Previous Frame
FF	Next Frame
Rew(hold)	Rewind until released
FF(hold)	Fast forward until released.
Stop + Rew	Cue previous clip (in a list) or cue to start. This stops playout.
Stop + FF	Cue next clip (in a list) or cue end. This stops playout.
Stop + Rew(hold)	Cue previous clip (in a list) or cue to start. This stops playout.
Stop + FF(hold)	Skip to the start of the preview clip. This stops playout.
Stop + <Select>	Cue the selected clip.
Play + Rew	Play previous clip (in a list) or cue to start and begin playing.
Play + FF	Play next event (in a list) or cue to end.
Play + Rew (hold)	Play previous clip (in a list) or cue to start and begin playing.
Play + FF (hold)	Skip to (and play) the preview clip.
Play + <Select>	Play the selected clip

## Monitoring remote control communications

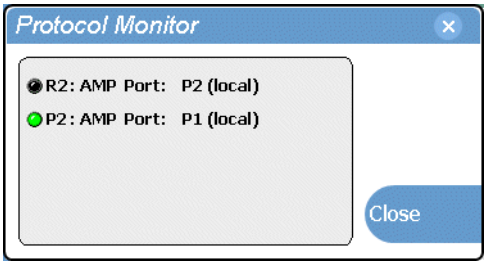
The Protocol Monitor button  is displayed in the AppCenter StatusBar when a protocol application is running on an iDDR channel. The button flashes when any channel is receiving remote control messages. Clicking the button opens the Protocol Monitor dialog box which you can use to determine which channels are receiving messages.

**NOTE:** The Protocol Monitor dialog will not open until a controller is connected and at least one command set is sent.

To open the Protocol Monitor dialog box:

- Click the Protocol Monitor button  in the AppCenter StatusBar.

The dialog box displays the channel number and protocol being used, along with the port number and control mode (Local or Protocol only). The green status LED indicates the port is receiving protocol commands.



# Using GPI input and output triggers

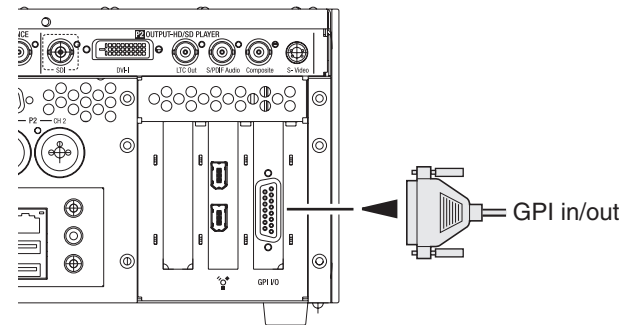
The iDDR provides 6 GPI inputs, and 6 GPI outputs on a single DB-15 pin rear panel connector. GPI input triggers can be used to control channels including but not limited to record, play, stop, and skip a playlist event. GPI output triggers can be defined for channels and inserted in playlists to control external equipment as the list is played.

Topics here include:

- [“Making GPI connections” on page 269](#)
- [“Configuring GPI input triggers” on page 269](#)
- [“Configuring GPI output triggers” on page 270](#)

## Making GPI connections

Cable the iDDR for GPI input and/or GPI output. You must supply your own interface cable. Refer to [“GPI I/O connector pinouts” on page 286](#).



## Configuring GPI input triggers



Use the configuration tool provided in either front panel or Workstation control modes to define the GPI inputs for a channel. Refer to the following table.

 or 	<a href="#">“Setting GPI input triggers” on page 43</a>
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## Configuring GPI output triggers

Use the configuration tool provided in either front panel or Workstation control modes to define the GPI inputs for a channel. Refer to the following table.



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	or		<a href="#">“Setting GPI output triggers” on page 45</a>
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### Related topics

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	<a href="#">“Adding GPI output triggers to playlists” on page 96</a>
	<a href="#">“Adding GPI output triggers to playlists” on page 190</a>

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## Chapter **6**

Chapter

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# ***Using an Ethernet connection***

Topics in the chapter include:

- [“Overview of networking” on page 272](#)
- [“Making the Ethernet network connection” on page 272](#)
- [“Configuring iDDR network settings” on page 274](#)
- [“File sharing: Mapping network drives” on page 276](#)

## Overview of networking

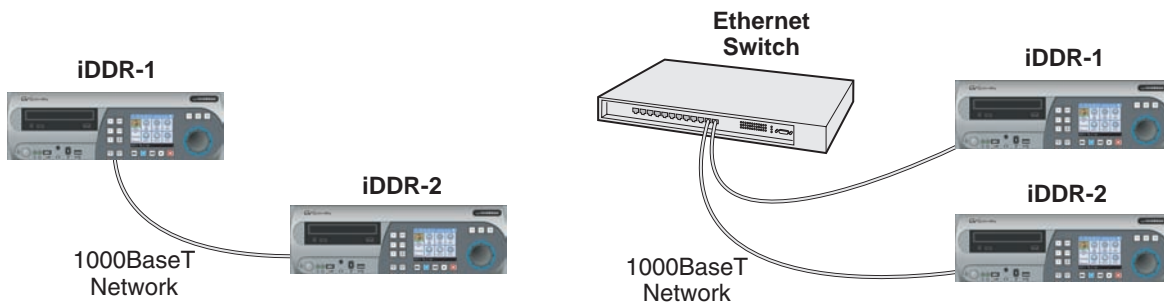
Networking lets you connect your iDDR to other computers or a private network. When you connect your iDDR to a network or another iDDR or computer, you can:

- Access files and folders on other iDDRs or computers.
- Control the iDDR remotely using devices and applications software developed for the iDDR that use AMP protocol over Ethernet.
- Transfer media files between iDDRs using streaming media transfers over 1Gb Ethernet.
- Monitor Turbo iDDR status using SNMP monitoring software.

## Making the Ethernet network connection

There are many different ways to connect your iDDR to other computers or to a network. You can connect your computer to:

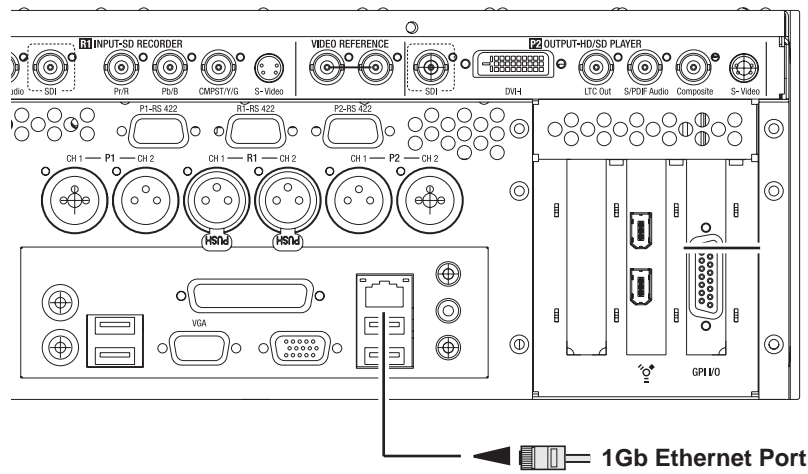
- Another computer or iDDR using a direct cable connection. This requires a cross-over Ethernet cable. Check with your local computer equipment supplier.
- Another computer or iDDR connected through an Ethernet hub or switch.



**NOTE:** If you are adding the iDDR to an existing network, you may want to configure network settings before connecting the Ethernet cable. This avoids network conflicts that can occur if the iDDR is not configured properly.

The following illustration shows the rear panel 1Gb Ethernet port.





## Configuring iDDR network settings

### Configure Windows network settings

This procedure guides you to the relevant network settings, but does not instruct you on the specific settings required for your network. It is assumed that you understand Ethernet networks in general and your particular network needs and that you can apply that understanding to make the required settings using standard Windows procedures. If you need help with these procedures, contact your network administrator.

To configure the network settings:

1. If you normally operate your Turbo iDDR in front panel mode, you should connect a keyboard, mouse, and VGA monitor before proceeding. These are required for accessing the Windows network configuration tools. You may need to restart Windows after making connections to make the mouse and keyboard operational.



**CAUTION:** *The Turbo iDDR is not a general purpose Windows workstation. The Windows configuration on the iDDR has been specifically set for use as a real time device. The Turbo iDDR is configured for automatic logon allowing unattended booting. To avoid partial or total system failure, do not modify any operating system settings unless approved by Grass Valley Support. This includes but is not limited to the following:*

- *Do not use the User Manager*
- *Do not use the Disk Administrator*
- *Do not load any third party software*
- *Do not install any Windows updates (these are distributed by Thomson Grass Valley).*

2. In the Windows taskbar, select **Start | Control Panel | Network and Internet Connections** and continue with standard Windows procedures to configure the TCP/IP protocol properties on each Turbo iDDR on the network. You can setup the network using DHCP, DNS, WINS, or other standard networking mechanisms.

**NOTE:** *For a small network, without a DHCP server or domain name server (DNS), you can set up a static IP address and create a Host file on each iDDR. The Host file specifies a device name for each IP address used on the network. Refer to the Windows documentation or your network administrator for more information.*

3. Shutdown and restart Windows.
4. If you are going to stream video between iDDRs, proceed to [“Enable streaming: Adding network hosts names” on page 275](#), otherwise, the iDDR is ready for standard data networking tasks.

***NOTE:** If you have a problem with the network, try using the ping utility in the Windows command prompt. Use either the IP address or host name. Troubleshoot as needed. Also, refer to the Turbo iDDR Service Manual for troubleshooting procedures.*

## Enable streaming: Adding network hosts names

You must add the host names of all peer iDDRs on the network that support streaming transfers. Adding host names is required to allow selection of networked iDDRs in the AppCenter user interface and to provide a successful network connection for streaming. The host names added will appear in the “Import” and “Send to” dialog boxes.

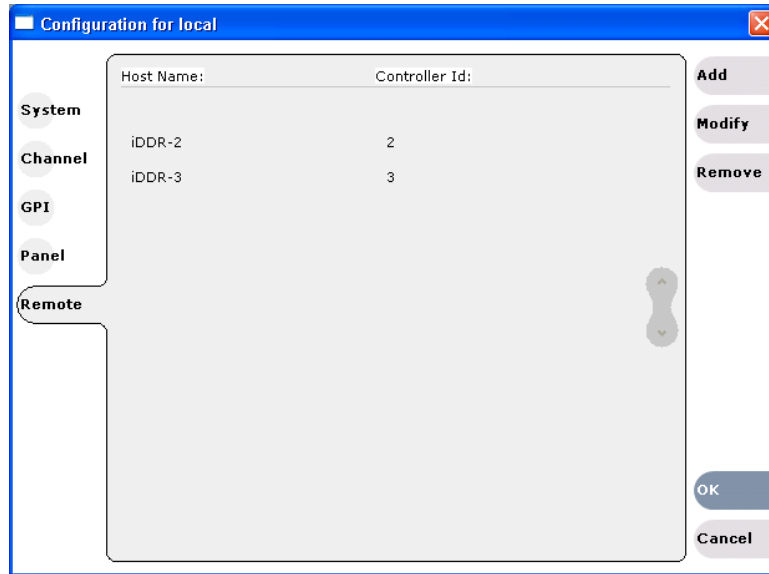
***NOTE:** By default, the iDDR host name is the same as the Windows computer name. To determine the iDDR computer name, right-click My Computer on the Windows desktop, then properties. Select the Network Identification tab and look for the “Full computer name”.*

In addition, if you are using remote protocol to perform video network transfers, you’ll need to assign a unique Controller ID number for each host name. If you are not using remote protocol for network transfers, you can leave the Controller Id blank. Each hostname requires a unique ID on the local iDDR. The controller ID is not global, that is, iDDR-2 may use controller ID 2 on one iDDR, but controller ID 1 on another.

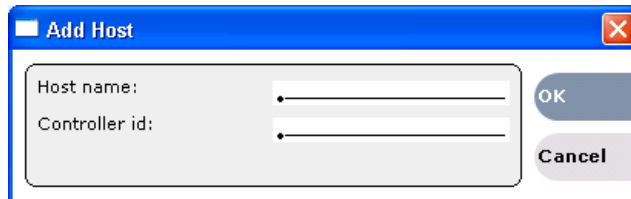
To add a network host names:

1. Start AppCenter Workstation, if it is not already running, using the desktop shortcut.
2. In AppCenter main menu, select **System**, then choose **Configuration**.
3. Click the **Remote** tab.

The network host names are displayed.



4. Click **Add** to open the Add Host dialog box, then do the following:
  - a. Select the Host Name text entry control, then enter the computer name of a peer iDDR.  
Make sure to enter the exact computer name. Any differences will result in being unable to connect to the iDDR.
  - b. Select the controller id control and enter the identification number of the computer you are adding.



- c. Click **OK** in the Add Host dialog box.
5. Repeat step 4 for the remaining iDDRs.
6. In the Configuration dialog box, click **OK** to save settings.

Once the host names are added, the iDDR is ready for streaming operation. Refer to [“Transferring media between Turbo iDDRs” on page 204](#), and [“Importing and exporting media” on page 197](#) for procedures on transferring media.

## File sharing: Mapping network drives

AppCenter Workstation supports media file import and export over the Ethernet network connection. You must use standard Windows procedures to map a network drive in Windows operating system before it appears in the AppCenter Workstation Clips pane.

---

## ***Maintenance Tasks***

Topics in this section include:

- [“Defragmenting the media drives” on page 278](#)
- [“Erasing unused media” on page 279](#)
- [“Clearing the media file system” on page 279](#)
- [“Running Storage Utility Mode” on page 279](#)

## Media drive maintenance

Over time you'll need to perform the following media disk maintenance tasks:

- [“Defragmenting the media drives” on page 278](#)
- [“Clearing the media file system” on page 279](#)
- [“Erasing unused media” on page 279](#)[“Clearing the media file system” on page 279](#)

### Defragmenting the media drives

After extended use of the Turbo iDDR, especially when recording and deleting multiple short clips, the iDDR media drives can become fragmented. Severely fragmented drives can slow down media access operations. To prevent this from occurring, the iDDR generates a status message well before fragmentation becomes a problem. When you receive this status message, you should plan a time when the Turbo iDDR is not in operation and defragment the media drives.

There are two ways to defragment the media drives:

- ***Use the Storage Utility to defragment the drives*** – You can use the Storage Utility defragment the media drives. Defragmenting the media drives can take a significant period of time. Make sure you allow a day or more to defragment your media drives.

Refer to the *Turbo iDDR Troubleshooting and Service Guide* for instructions on using the Defragment command.

- ***Clear the file system*** – Alternatively, if there is no need to keep the media currently on the Turbo iDDR, you can clear the media file system, which also defragments the media drives in just a few moments. Refer to [“Clearing the media file system” on page 279](#).

## Erasing unused media

After editing a clip by moving the mark-in/mark-out points, the remaining portion of media outside the marks can be erased to free media storage space. If the media outside the clip marks is referenced by a subclip, program, or event from a playlist, that media is not erased. Subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.

To erase unused media:

- In front panel mode, see [“Erasing a clip's unused media” on page 107](#).
- In Workstation mode, see [“Erasing a clip's unused media” on page 147](#).

## Clearing the media file system

When you need to remove all media from the Turbo iDDR, you should use the Clear File System operation rather than deleting all the clips manually. The Clear File System operation returns the iDDR media storage system to its initial state, as it was when you received it from the factory. This operation also clears up any ongoing maintenance issues that can occur over time, such as fragmented media drives.



**WARNING:** *Clearing the media file system will permanently remove all media stored on the iDDR.*

Refer to the *Turbo iDDR Troubleshooting and Service Guide* for instructions on clearing media.

## Running Storage Utility Mode

If the media storage system needs service work, you must restart the machine in storage maintenance mode. In this mode all normal operations are suspended and only storage utility runs. You should only restart in storage maintenance mode if instructed to do so by a service procedure, as documented in the *Turbo iDDR Troubleshooting and Service Guide*, or if under the direction of Grass Valley support.





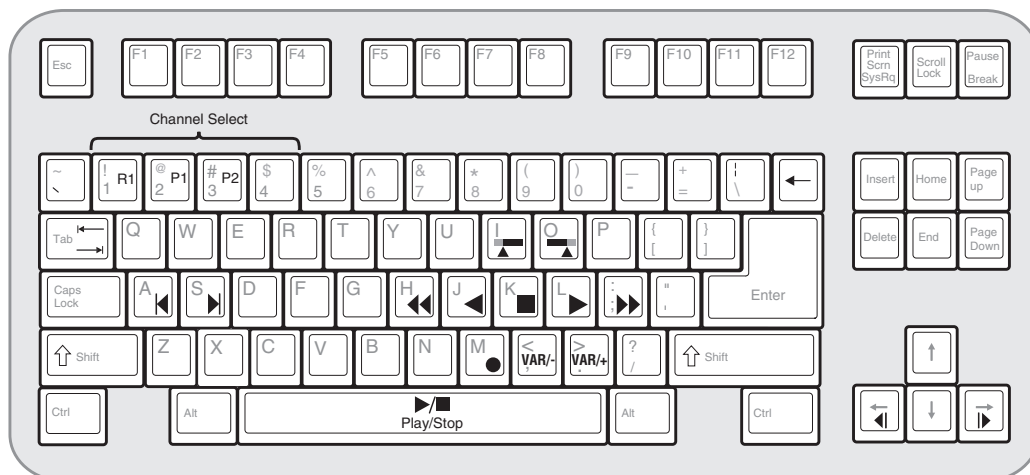
## ***Keyboard Shortcuts***

Topics in the appendix include:

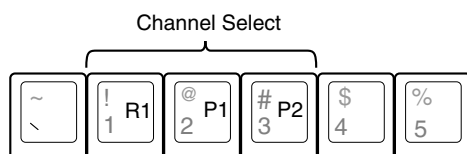
- “About keyboard operation”
- “Channel select”
- “Basic transport controls”
- “Off-speed play controls”
- “Stop-Mode transport controls”
- “List controls”
- “Playlist controls”

## About keyboard operation

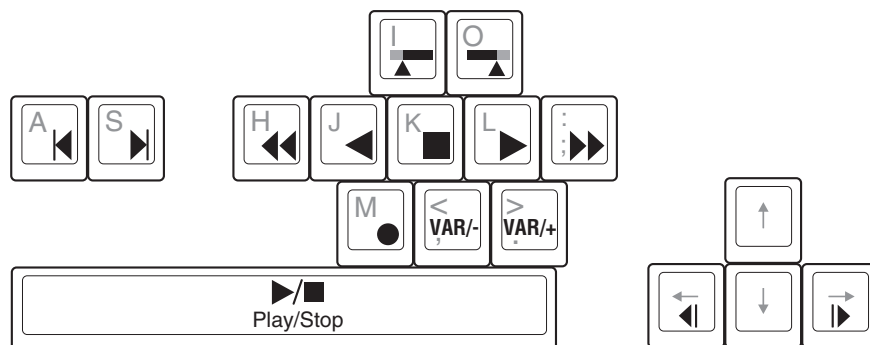
A keyboard can be connected and used in front panel control mode or AppCenter Workstation mode to control the Turbo iDDR. The following describes the keyboard shortcuts available. Keyboard shortcuts are disabled when text entry dialog boxes are open.



## Channel select



## Basic transport controls



## Off-speed play controls

For this action...	Press
Play faster	Shift + L (Repeat this key sequence to increment the play speed up to the maximum forward shuttle speed.)
Play slower	Shift + J (Repeat this key sequence to decrement the play speed up to the maximum reverse shuttle speed.)
VAR/speed increment	period (.) (Press for VAR play mode, then repeat to increment VAR speed.)
VAR/speed decrement	comma (,) (Press for VAR play mode, then repeat to decrement VAR speed.)




## Stop-Mode transport controls

For this action...	Press
Cue to mark-in	A, Shift + I
Cue to mark-out	S, Shift + O
Next frame	Arrow-right
Previous frame	Arrow-left
Go forward 1 second	Shift + Arrow-right
Go back 1 second	Shift + Arrow-left

## Mark-Point and Cue controls

For this action...	Press
Set mark-in	I
Set mark-out	O
Clear mark-in	Ctrl + I
Clear mark-out	Ctrl + O

## Miscellaneous controls

Action	Press
Copy	Ctrl + C
Cut	Ctrl + X
Paste	Ctrl + V
Display split screen mode with Clips pane.	 + 
Open online help	

## List controls

The following shortcuts are used to control lists such as text view in Clips pane, or Playlist's List view.

Action	Press
Select previous item in list	Up arrow
Select next item in list	Down arrow
Scroll to previous page	Page Up
Scroll to next page	Page Down
Scroll to top of list	Home
Scrolls to bottom of list	End
Delete current selection	Delete, Backspace

## Playlist controls

Action	Press
Next event	Shift + S, Ctrl + S, Ctrl + Arrow-right
Previous event	Shift + A, Ctrl + A, Ctrl + Arrow-left
Next section	Shift + Ctrl + S, Shift + Ctrl + Arrow-right
Previous section	Shift + Ctrl + A, Shift + Ctrl + Arrow-left
Goto an event	Hold down the Alt key while clicking the event

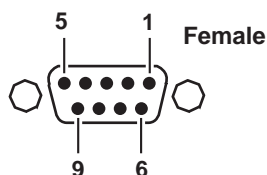
## Connector Pin-outs

The following sections describe iDDR rear panel connector pinouts.

- “RS-422 connector pinouts”
- “Analog audio connector pinouts”
- “GPI I/O connector pinouts”

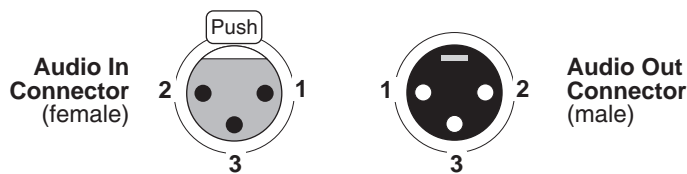
### RS-422 connector pinouts

The RS-422 interface conforms to ANSI/SMPTE 207M-1997 standard (SMPTE 422).



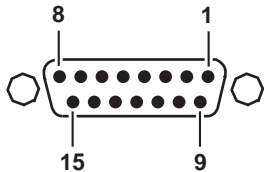
Pin #	Signal	Description
1	GND	Frame Ground
2	-TXD	Differential Transmit Data (low)
3	+RXD	Differential Receive Data (high)
4	GND	Transmit Signal Common
5	NC	Spare
6	GND	Receive Signal Common
7	+TXD	Differential Transmit Data (high)
8	-RXD	Differential Receive Data (low)
9	GND	Signal Ground

### Analog audio connector pinouts



Pin #	Audio In	Pin #	Audio Out
1	Signal Ground	1	Signal Ground
2	(+)	2	(+)
3	(-)	3	(-)

GPI I/O connector pinouts



Pin	Signal	Pin	Signal
1	Output 1	9	Input 1
2	Output 2	10	Input 2
3	Output 3	11	Input 3
4	Output 4	12	Input 4
5	Output 5	13	Input 5
6	Output 6	14	Input 6
7	Output 7	15	Input 7
8	Ground		

**NOTE:** Turbo iDDR software supports outputs 1-6 and inputs 1-6 only. Output 7 (pin 7) and input 7 (pin 15) are not used.

---

## ***Specifications***

Specifications in this chapter:

- “AC power specification”
- “Environmental specifications”
- “Mechanical specifications”
- “Electrical specifications”
- “Operational specifications”

## AC power specification

The Turbo iDDR AC power specification is shown in the following table.

Characteristic	Specification
Mains Input Voltage	100V to 240V auto-range, 50-60Hz
Power consumption	180 typical, maximum AC current 8A @ 115 VAC, 4A @ 230 VAC
Thermal Output	13000 BTU/h max



**WARNING:** Always use a grounded outlet to supply power to the system. Always use a power cable with a grounded plug, such as the one supplied with the system.

## Environmental specifications

Characteristic	Specification
Ambient Temperature Non-Operating	-40° to +60° C
Ambient Temperature Operating	10° to +40° C
Relative Humidity	Operating 20% to 80% from -5° to +45°C Non-Operating 10% to 80% from -30° to +60°C Do not operate with visible moisture on the circuit boards
Operating Altitude	To 10,000 feet IEC 950 compliant to 2000 meters
Storage Altitude	To 40,000 feet
Non-Operating Mechanical Shock	Class 5 (30G) Thomson Grass Valley 001131500
Random Vibration	Operational: Class 6 Thomson Grass Valley 001131500 Non-Operational: Class 5 Thomson Grass Valley 001131500
Transportation	Thomson Grass Valley 001131500
Equipment Type	Information Technology
Equipment Class	Class 1
Installation Category	Category II Local level mains, appliances, portable equipment, etc.
Pollution Degree	Level 2 operating environment, indoor use only.



## Mechanical specifications

Dimension	Measurement
Height	5.20 in (132mm)
Width	16.75 in (426mm)
Depth	20.27 in (515mm) 18.60 in (472 mm) (From rack-mounting ears to BNCs)
Weight:	27.75. (12.6 kg)

## Electrical specifications

The following sections describe the electrical specifications:

- “Serial Digital Video (SDI)”
- “Composite Analog I/O”
- “S-Video I/O”
- “Analog Component Video I/O”
- “Genlock Reference”
- “System Timing”
- “S/PDIF Digital Audio”
- “Analog Audio”
- “Audio headphone output (with front panel option)”
- “LTC Input/Output”
- “RS-422 specification”
- “GPI I/O specifications”
- “IEEE 1394A interface specification”

## Serial Digital Video (SDI)

Parameter	Specification
Video Standard	525 Line or 625 Line component
Number of Inputs	1 per record channel
Number of Outputs	2 per play channel
Data format	Conforms to SMPTE 259M
Number of bits	10bits
Connector	BNC, 75 ohm, No loop-through
Max Cable Length	225 meters (738 ft) (Belden 8281 type cable)
Return Loss	≥15db, 5Mhz to 270Mhz

## Composite Analog I/O

Parameter	Specification
Composite Video Standard <sup>a</sup>	NTSC, 525 line (59.94Hz) Conforms to SMPTE170M, or PAL, 625 line (50Hz) Conforms CCIR Report 624
Number of Inputs	1 per record channel
Number of Outputs	1 per play channel
Connectors	BNC, 75 ohm

<sup>a</sup>. The iDDR can record signals from most non-timebase corrected signal sources such as color under video playback devices, i.e. VHS or U-Matic VTRs, low cost cameras, and DVD players. However, for reliable recording performance some devices may require external signal conditioning products, i.e. timebase correction.

## S-Video I/O

Parameter	Specification
Composite Video Standard <sup>a</sup>	NTSC, 525 line (59.94Hz) or PAL, 625 line (50Hz)
Number of Inputs	1 per record channel
Number of Outputs	1 per play channel
Connectors	Mini-DIN 4-pin, 75ohm

<sup>a</sup>. The iDDR can record signals from most non-timebase corrected signal sources such as color under video playback devices, i.e. VHS or U-Matic VTRs, low cost cameras, and DVD players. However, for reliable recording performance some devices may require external signal conditioning products, i.e. timebase correction.

## Analog Component Video I/O

Parameter	Specification
Component Video Standard <sup>a</sup>	BetaCam (Sony) YPbPr SMPTE 153/EBU N10 YUV SMPTE 153/EBU N10 RGB (output only)
Sync Signal (input)	Input: Y
Sync Signal (output)	Play channel video type: <ul style="list-style-type: none"> <li>• YUV – 3 wire (sync on Y)</li> <li>• RGB – 5 wire (RGBHV)</li> </ul>
Connectors	Input: BNC, 75 ohm Output: DVI-I

<sup>a</sup>. The iDDR can record signals from most non-timebase corrected signal sources such as color under video playback devices, i.e. VHS or U-Matic VTRs, and low cost cameras. However, for reliable recording performance some devices may require external signal conditioning products, i.e. timebase correction.

## Genlock Reference

Characteristics	Description
Signal Type	NTSC/PAL Color Black Composite Analog
Connectors	2 BNC, 75 ohm passive loop through
Color Field Detection, Based on SCH Phase	Correct color framing for signals having an average SCH phase $\pm 40^\circ$ ; Lockup $\pm 10^\circ$ . Once locked to color field, it will stay locked over a range of $0^\circ$ to $\pm 90^\circ$
Burst Frequency Lock Range	PAL, $\pm 10$ Hz at subcarrier NTSC, $\pm 20$ Hz at subcarrier
Signal Amplitude Lock Range	Stays locked to +6 dB and -3 dB
Input Return Loss	$\geq 40$ dB to 5 MHz
Unlocked internal clock accuracy <sup>a</sup>	When not locked to a reference, 27Mhz. will be within $\pm 25$ PPM

<sup>a</sup>. Internal reference provides accurate free-running timing signals in the absence of genlock reference to allow asynchronous record and play.

## System Timing

Characteristics	Description <sup>a</sup>
Nominal Playback Output Delay	Adjustable (Default: Zero timed to reference)
Output Delay Range (Independent for each play channel)	Frames – NTSC 0 to +1 frames, PAL 0 to +3 frames Lines – NTSC (525 lines) 0 to +524 lines, PAL (625 lines) 0 to +624 lines. Samples – NTSC (525 lines) 0 to +1715 clock samples, PAL (625 lines) 0 to +1727 clock samples. Analog sub-pixels (SC) <sup>b</sup> – (analog video only). Range is slightly more than one sample clock period.
Nominal E to E Output Delay	NA (E to E is provided for monitoring purposes only, not intended as a program switch.)

<sup>a</sup>. All delay values shown are relative to Black Reference.

<sup>b</sup>. Output delay adjustments affect the SDI and composite analog outputs together. The analog sub-pixel adjustment is only a “fine” trim on the composite output with respect to the current SDI timing.

## S/PDIF Digital Audio

Parameter	Specification
Standard	IEC 60958 Compressed AC-3 or PCM
Connector	BNC
Input Impedance	75 ohms (unbalanced)
Copyright Protection	If the audio input material has the copy-protection status bit turned on, the audio input is muted. Also, warning symbol is displayed in the Status pane and warning message is written in the Status log.

## Analog Audio

Parameter	Specification
Audio Standard	Balanced differential analog
Audio Inputs	2 per record channel, Female XLR
Audio Outputs	2 per play channel, Male XLR
Impedance	Input: 15k ohms, balanced Output: 50 ohms per side, balanced
Sampling and encoding	48 KHz and 16-bit pcm

## Audio headphone output (with front panel option)

Parameter	Specification
Audio Standard	Single-ended analog output with volume control
Channels	One stereo pair, switched to monitor selected video channel
Connector	1/4 inch Stereo Audio Jack

## LTC Input/Output

Parameter	Specification
Standard	SMPTE 12M Longitudinal Time Code, AC coupled, differential input
Number of Inputs	1 channel per record - Female XLR
Number of Outputs	1 channel per play - Male XLR
Input Impedance	1K ohm
Output Impedance	50 ohm
Minimum Input Voltage	0.1 V peak-to-peak, differential
Maximum Input Voltage	2.5 V peak-to-peak, differential
Nominal Output Voltage	2.0 V peak-to-peak differential.
LTC Reader	LTC reader will accept LTC at rates between 1/30 and 80 times the nominal rate in either forward or reverse directions.

Parameter	Specification
LTC Transmitter	LTC transmitter outputs LTC at the nominal frame rate for the selected standard at 1x speed, forward direction only.

## RS-422 specification

The RS-422 interface conforms to ANSI/SMPTE 207M-1997 standard (SMPTE 422).

## GPI I/O specifications

Characteristics	Description
Number of Inputs/Outputs	6 inputs; 6 outputs; 1 common ground
Connector type	15pin D
GPI Input	Inputs set to TTL level high = 2.4-5V External current sink = 1ma (Compatible with 5 volts CMOS/TTL open collector, or contact closures.)
GPI Output	Outputs are open drain drivers. Max. voltage when outputs are open = 30V Max. current when outputs are closed = 100ma Typical risetimes approximately 625ns Typical falltimes approximately 400ns

## IEEE 1394A interface specification

The following table describes the input requirements for the optional IEEE 1394A interface.

Characteristics	Description
Standard	IEEE 1394A for import of video and audio from a digital recording device.  <i>NOTE: The iDDR record channel transport controls can be used to control the remote device—play, stop, fast forward, rewind, goto timecode.</i>
Port Assignments	Any of the ports 1-3 can be used for making a connection to a IEEE 1394 device.  <i>NOTE: The top port on the rear panel and the front panel port are electrically the same. Use only one port at a time.</i>
Video Requirements	DV – DV25 video HDV – MPEG-2 MP@H14L
Audio Channels	2 channels, 16 bit, 48KHz
Timecode	Device timecode input is not recorded. Instead, the clip timecode is striped using the iDDR record channel internal timecode generator. Start timecode is automatically set to 00:00:00:00.

## **Operational specifications**

### **Media file system performance**

- Maximum number of clips: 20,000
- Minimum record to play time: 5 second from start of record.

### **Video network performance**

The iDDR supports streaming video network transfers between iDDRs and M-Series iVDRs using General Exchange Format (GXF) as described in SMPTE 360M.

- 100BaseT Network Performance: >33Mb/s with all channels operating at 15Mb/s
- 1GBaseT performance: >80Mb/s with all channels operating at 15Mb/s.
- Ethernet streaming and Ethernet control on the same network adapter interface is allowed.

### **Composite analog video input performance**

The iDDR can record signals from most non-timebase corrected signal sources such as color under video playback devices, i.e. VHS or U-Matic VTRs, and low cost cameras. However, for reliable recording performance some devices may require external signal conditioning products, i.e. timebase correction.





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